

RONDEAU BAY  
WATERSHED  
DATA COLLECTION SUMMARY  
1983

HARWICH TOWNSHIP

KENT COUNTY

SOUTHWEST REGION

MINISTRY OF THE ENVIRONMENT

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## INTRODUCTION

This report presents and summarizes the data collected for the Rondeau Bay study in 1983 by the Southwest Region of the Ministry of the Environment. This is the first year of a multi-year program involved in monitoring water quality changes in the Bay. The data will serve as a background data base to evaluate the impact of improved agricultural practices within the drainage basin.

This Ministry's involvement with the water quality in Rondeau Bay started in 1977. As a result of complaints of massive die-offs of Eurasian milfoil in Rondeau Bay, this Ministry undertook a study to confirm the die-off and try to determine the causes. The entire periphery of Rondeau Bay was cruised in 1977, and only one milfoil bed was detected. However, fairly extensive beds of other native submergent aquatic vegetation was found growing, particularly along the western side of the Bay. The Bay water was turbid and samples were taken of water and sediment for chemical and herbicide analysis. The results of the analysis revealed no specific cause for the milfoil collapse. Nothing unnatural other than the higher turbidity of the bay water was detected. In 1978, studies revealed that the aquatic plant beds were even smaller in size than they were in 1977. Also, the plants that were there were smaller in size than normal for that time of year. This was believed to be a result of the late spring and thicker than normal ice conditions that were reported in the Bay during the preceeding winter. Again, turbidity conditions were noted throughout the Bay, particularly on the western side.

In 1979, studies revealed improved plant growth in the areas studies, but the waters remained turbid. Further improvement was noted in the aquatic vegetation in 1980.

Nevertheless, the vegetation remained very sparse relative to the dense coverage throughout the Bay prior to 1977.

The spring and summer of 1981 were characterized by heavy rainfall events. Large quantities of soil were eroded into Rondeau Bay. Levels of aquatic vegetation dropped to all-time lows and the Bay appeared to be more turbid than ever. During the spring of 1982, the Ministry of the Environment released the report "Water Quality Studies of Rondeau Bay and Watershed, Kent County", as a result of the 1981 field work. The report summarized the deteriorated health of the Bay due to the turbidity and suspended solids, and recommended that soil conservation and erosion control work must be developed in the watershed.

As a result of the above-mentioned report, this Ministry helped finance a Master Erosion Control Plan, by a private consultant, to determine the erosion rates from the watershed and to develop practical remedial measures to reduce the soil losses.

The consultant's report came out in 1983, the same year this Ministry started a four-year program to strengthen the data base and study the various physical, chemical and limnological aspects of the Bay. This includes sampling three representative tributaries for both quality and quantity on a routine and intensive basis. Also sampled were eight bay stations and eight tributary mouth stations on a routine basis and special event sampling during winter ice cover conditions, storm events, extended calm periods and windy periods to document the affects of weather. Sediment type and chemistry were recorded at different stations in the Bay. Types and numbers of invertebrates were also documented at various locations within the Bay. During 1983, the extent, type and location of submerged beds of aquatic vegetation were again recorded and a private

consultant was employed to determine restoration strategies and techniques for improving the aquatic vegetation. Historical air photographs were studied to determine changes in the Bay, shoreline and dredging patterns of the tributary mouths. A water level recorder was installed in the northeast end of the Bay to help understand the impact and frequency of seches and bay-lake water exchange. Water and sediment samples were taken at tributary mouth stations and from the Bay to determine the impact of land-based herbicides usage past and present.

As mentioned earlier, this report contains the data collected by the Southwest Region during the 1983 field season. Its purpose is to contain and summarize all the data collected for future reference when comparing the monitored changes in the Bay to past conditions.

### SUMMARY

The data presented in this report is hard to compare to the earlier data collected on Rondeau Bay because of the more frequent sampling in 1983. The sampling frequency has at least doubled and it is felt that this will provide the strong data base required for comparison in future years.

However, from visual observations it was felt that the water quality of Rondeau Bay has improved over 1982. The growth of aquatic vegetation, while still sparse, was heavier than noted in previous years. It is felt that the calm spring and early summer without major rain events, a slow early snow melt and the implementation of improved agriculture erosion control methods all played a part in this improvement. The secchi disc readings have also increased over 1982 levels.

There is a definite correlation between concentrations of suspended solids in the monitored tributaries and stream flow. As flow increases due to runoff, so does the concentration of suspended solids. From an individual storm on September 16, 1983, 146 tonnes (0.159 tonnes/acre) of suspended solids was measured flowing past our John Clarke Drain station. From the whole watershed, it was estimated that over 2,140 tonne of suspended solids were delivered to the bay over this 24 hour period. During the period March 15 to November 30, 1983, the average measured suspended solids load was 0.0069 tonne/acre/day from our three monitoring sites. Over the cropped portion of the watershed, this is equal to approximately 187 tonne/day. Assuming erosion at a rate of 187 tonne/day for 275 days, (90 days of frozen ground with no erosion), the estimated

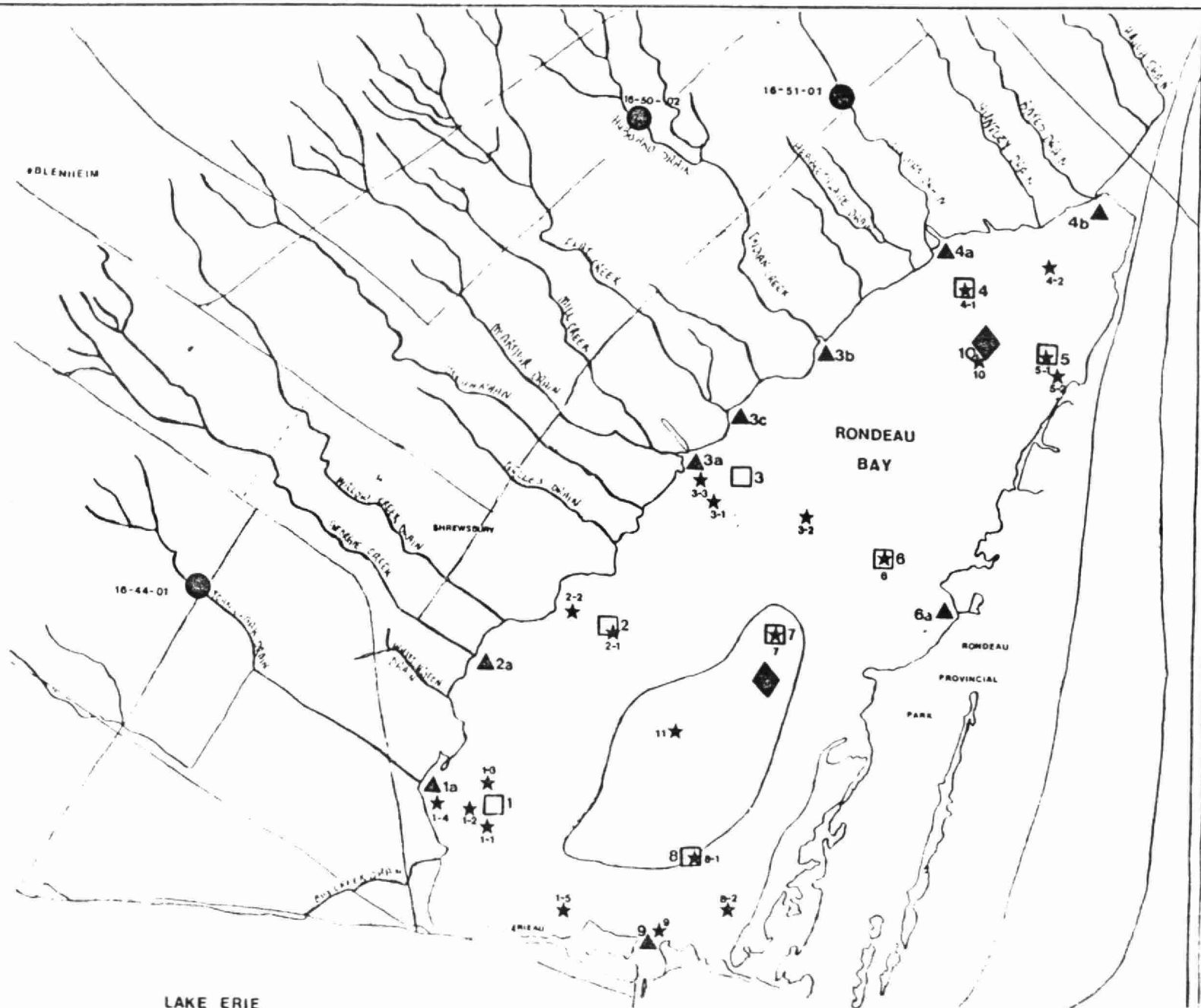
1983 suspended solids load is 51,300 tonne from the watershed. This equates to an average delivery rate of over 1.9 tonne/acre/year or 4.7 tonne/hectare/year.



BAY STUDIES

Rondeau Bay Data Collection - 1983

Data	Water Samples collected from Rondeau Bay	Water Samples collected from tributary mouth	Secchi disc readings	Phytoplankton Chlorophyll data collection	Aquatic plant collections	Sediment sample collection	Bottom fauna collection	Aquatic plant seed count in sediments	Pesticides Data - Water and or sediments
Apr 27/83	X	X	X	X		X			X
May 12/83	X	X	X	X					
May 26/83	X		X	X					
May 30/83				X					
June 2/83	X		X	X					
June 6/83									X
June 9/83	X	X	X	X					
June 15/83	X		X	X	X				
June 21/83	X		X	X					
June 30/84	X	X	X	X					
July 7/83	X	X	X	X					X
July 14/83	X	X	X	X					
July 21/83	X		X	X					
July 25/83							X	X	
July 26/83							X	X	
July 27/83						X	X	X	
July 28/83							X	X	
July 29/83	X	X	X				X		
Aug 5/83	X	X	X	X					
Aug 10/83	X		X	X					
Aug 14/83	X		X	X					
Aug 21/83	X		X	X					
Aug 29/83	X		X	X					
Sept 5/83	X		X	X					
Sept 11/83	X		X						
Sept 15/83						X			X
Sept 22/83	X		X						
Sept 27/83	X		X	X					
Nov 8/83	X		X	X					
Dec 13/83	X		X						



# RONDEAU BAY AND TRIBUTARY SAMPLING SITES 1983

## LEGEND

- ★ INVERTEBRATE SAMPLING SITES
- TRIBUTARY SAMPLING FOR CHEMICAL ANALYSES
- ▲ TRI-WEEKLY LAKE SAMPLING
- RONDEAU BAY SAMPLING SITES - CHEMICAL AND SECCHI DISC READINGS
- ◆ SAMPLING SITES FOR CHLOROPHYLL AND PHYTOPLANKTON ANALYSES



SCALE 1:25000

Rondeau Bay

Secchi Disc Measurements - 1983

<u>Station</u>	<u>Readings</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
1	23	0.52	1.00	0.2
2	23	0.5	1.00	0.1
3	22	0.49	0.8	0.25
4	22	0.44	0.7	0.2
5	21	0.5	0.8	0.15
6	22	0.64	2.5	0.25
7	21	0.58	1.0	0.33
8	22	0.68	1.2	0.35
9	21	1.09	3.5	0.4
10	20	0.51	0.8	0.25
1A	9	0.2	0.5	0.1
2A	10	0.26	0.35	0.1
3A	9	0.29	0.3	0.1
3B	9	0.31	0.7	0.1
3C	9	0.31	0.6	0.1
4A	9	0.26	0.5	0.1
4B	8	0.41	1.0	0.1
6A	8	0.68	1.2	0.2

All readings in meters

Chlorophyll and Secchi Disc  
measurements collected from  
Stations 7 and 10 in Rondeau Bay  
April to December, 1983

Station Number	Date	Secchi Disc m	Time	Temp. °C	Total Chlorophyll A ug/l	Corrected Chlorophyll A ug/l	Total Chlorophyll B ug/l
7	Apr 27	0.33	--	9.5	5.0	--	.7
10		0.25	--	--	5.9	--	.6
7	May 12	0.6	2:55	14	7.2	5.0	1.1
10		0.5	2:30	14	6.0	4.2	1.0
7	May 26	0.7	1:30	13.5	1.7	.9	.5
10		0.5	1:00	13	4.7	3.4	1.2
7	May 30	--	--	--	6.0	4.6	1.0
10		--	--	--	7.4	5.4	1.0
7	June 2	0.7	11:50	14	.9	.1	.4
10		0.8	11:16	15	1.0	.5	.5
7	June 9	0.8	2:30	16	6.9	2.8	.8
10		0.8	1:40	17	6.0	2.9	.8
7	June 15	0.9	7:40	24	3.6	2.3	.5
10		0.8	4:25	24	4.5	2.9	.5
7	June 21	1.0	1:45	--	2.2	1.4	.4
10		0.6	1:00	18	3.7	1.7	.5
7	July 7	0.4	1:40	22	11.7	8.9	2.1
10		0.3	12:25	23	10.7	7.0	3.6
7	July 14	0.5	1:15	25	6.5	4.7	2.2
10		0.3	11:51	26	15.0	10.0	4.3
7	July 21	0.7	1:24	26	12.3	4.0	1.6
10		0.55	12:56	28	10.9	3.1	1.3
7	July 29	0.35	--	24	--	--	--
7	Aug 5	0.5	12:15	25	17.2	12.5	2.2
10		0.5	12:00	25	19.3	14.3	2.8
7	Aug 10	0.6	5:35	24	13.9	10.2	3.4
10		0.5	4:30	24	17.7	13.1	1.7
7	Aug 14	0.6	12:20	21	7.2	1.2	5.8
10		0.5	11:14	21.5	12.2	8.5	3.4
7	Aug 21	0.6	7:10	24	6.2	5.1	1.5
10		0.5	6:00	24.5	12.6	--	1.4

Chlorophyll and Secchi Disc  
measurements collected from  
Stations 7 and 10 in Rondeau Bay  
April to December, 1983

Station Number	Date	Secchi Disc m	Time	Temp. °C	Total Chlorophyll A ug/l	Corrected Chlorophyll A ug/l	Total Chlorophyll B ug/l
7	Aug 29	0.5	8:10	--	5.8	4.1	1.1
10		0.4	8:20	24	7.2	6.0	1.4
7	Sept 11	0.4	10:45	25.5	18.4	13.5	2.2
10		0.3	12:15	25	18.8	15.4	1.2
7	Sept 27	0.6	2:00	15	7.8	6.7	1.4
10		0.6	2:45	16	5.6	4.7	0.8
7	Nov 8	0.7	11:25	10	4.6	2.8	1.0
10		0.5	11:50	8	5.2	4.1	1.3
7	Dec	0.7	11:25	10	--	--	--

Sta. #7

Sta. #10

Average Secchi disc =  
Maximum Secchi disc =  
Minimum Secchi disc =

0.58 m  
1.0 m  
0.33 m

0.51 m  
0.8 m  
0.25 m

Sta. #7

Sta. #10

Average Total Chlorophyll A =  
Average Corrected Chlorophyll A =  
Average Total Chlorophyll B =

8.9 ug/L  
5.0 ug/L  
1.6 ug/L

9.2 ug/L  
6.3 ug/L  
1.5 ug/L

Suspended Solids - 1983

<u>Station</u>	<u>Readings</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
1T	22	27.76	138.2	4.0
1B	22	30.4	135.1	4.0
2T	23	26.3	136.1	5.8
2B	23	44.5	151.1	10.4
3T	22	21.0	41.8	9.6
3B	22	37.9	251.7	10.5
4T	22	28.4	85.1	10.9
4B	22	36.92	142.4	12.4
5T	22	20.1	55.7	9.1
5B	22	25.9	73.9	9.1
6T	22	20.0	54.5	9.4
6B	22	24.6	81.4	11.6
7T	22	18.7	58.2	8.1
7B	22	31.7	145.8	9.5
8T	21	16.7	64.5	6.3
8B	21	20.0	48.8	7.9
9T	20	11.5	51.1	1.7
9B	17	13.1	45.3	2.4

N.B. T = Top  
B = Bottom

All results in mg/l

Turbidity - 1983

<u>Station</u>	<u>Readings</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
1T	23	23.6	190	7.2
1B	22	27.81	170	9.2
2T	23	21.4	212	9.7
2B	22	37.9	218	8.3
3T	22	20.9	82	9.4
3B	22	23.8	91	9.2
4T	22	27.8	114	8.8
4B	22	33.2	131	9.1
5T	22	20.8	95	7.9
5B	21	25.2	98	7.7
6T	22	19.6	53	8.6
6B	22	22.9	62	7.8
7T	22	17.4	44	7.2
7B	22	28.2	92	8.1
8T	21	15.7	68	6.1
8B	21	17.3	55	6.7
9T	20	12.2	87	1.69
9B	17	12.9	81	1.46

N.B. T = Top  
B = Bottom

All readings in Formazin Turbidity Units (FTU)



Total Phosphorus - 1983

<u>Station</u>	<u>Readings</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
1T	21	.062	.284	.026
1B	21	.069	.264	.031
2T	22	.073	.365	.030
2B	22	.066	.360	.031
3T	21	.052	.124	.030
3B	21	.069	.160	.029
4T	21	.065	.170	.029
4B	21	.071	.194	.032
5T	21	.053	.147	.027
5B	20	.060	.150	.032
6T	21	.050	.080	.031
6B	21	.053	.096	.033
7T	21	.049	.074	.022
7B	21	.060	.115	.033
8T	20	.035	.110	.018
8B	20	.045	.084	.022
9T	19	.026	.079	.007
9B	16	.029	.087	.010

N.B. T = Top  
B = Bottom

All results in mg/l

Soluble Phosphorus - 1983

<u>Station</u>	<u>Readings</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
1T	21	.007	.064	.001
1B	21	.008	.064	.001
2T	22	.008	.078	.001
2B	22	.009	.072	.001
3T	21	.005	.040	.001
3B	21	.005	.035	.001
4T	21	.005	.062	.001
4B	21	.008	.069	.001
5T	21	.006	.011	.001
5B	20	.005	.052	.001
6T	21	.005	.026	.001
6B	21	.005	.026	.001
7T	21	.005	.025	.001
7B	21	.005	.025	.001
8T	20	.004	.032	.001
8B	20	.006	.022	.001
9T	19	.004	.029	.001
9B	16	.005	.025	.001

All results in mg/l

Pesticide Residue Analysis  
Rondeau Bay, April 27/83  
Water and Sediments Analysis

Lab No.	Sample Description		Content in water samples (ug/L) and dried soil samples (ug/g)					
			Moisture %	Atrazine	D-atrazine	Simazine	Metribuzin	Dicamba
4233	1A	Water		TR (LO.1)	ND (LO.1)	ND	ND	ND
4234	2	"		TR	ND	ND	ND	ND
4235	2A	"		TR	ND	ND	ND	ND
4236	3A	"		TR	ND	ND	ND	ND
4237	3B	"		TR	ND	ND	ND	ND
4238	4A	"		TR	ND	ND	ND	ND
4239	4B	"		TR	ND	ND	ND	ND
4240	6A	"		TR	ND	ND	ND	ND
4241	1A	Sediment	50	TR (0.008)	ND	ND	ND	ND
4242	2A	"	42	ND (LO.005)	ND	ND	ND	ND
4243	3A	"	68	0.01 (4)	ND	ND	ND	ND
4244	3B	"	30	TR (0.009)	ND	ND	ND	ND
4245	4A	"	52	ND	ND	ND	ND	ND
4246	4B	"	28	TR	ND	ND	ND	ND
4247	6A	"	90	ND	ND	ND	ND	ND

Lab. No	Sample Description		Content in sample as received			
			CIPC	allidochlor	thiocarbamates	N-methylcarbamates
4233	1A Water	(ppb)	ND (L1)	ND (L1)	ND (L1)	ND (L1)
4241	1A Sediment	(ppm)	ND (LO.2)	ND (LO.2)	ND (LO.2)	ND (LO.2)

NOTE - Water samples taken by random grab from lake surface.  
- Sediment samples collected with ponar grab.

Pesticide Residue Analysis  
Rondeau Bay, Sept. 15, 1983  
Water and Sediment Analysis

Lab No.	Sample Description	Moisture %	Content in dried sediment samples (ug/g)										
			Phenoxy's					Ala-chlor	Metola-chlor	Triazines			
			Maco-prop	MCPA	Dichlor-prop	2,4-D	other			Atraz.	D-atraz.	Cyana.	Other
9671	John Clark drain	42	ND (LO.01)	ND	ND	ND	ND	ND	ND	0.01	ND	ND	ND
9672	Station #1	34	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9673	Station #3A	26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9674	Station #3	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9675	Indian Creek (3B)	30	ND	ND	ND	ND	ND	ND	ND	0.02	ND	ND	ND
9676	Coleman drain	34	ND	ND	ND	ND	ND	ND	ND	0.01	ND	ND	ND
9677	Station #4	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Lab No.	Sample Description	Content in water samples as rec'd (ug/L)											
		Phenoxy's					Dicamba	Triazines				Alachlor	Metolachlor
		MCPP	MCPA	Dichloroprop	2,4-D	other		Atrazine	D-atraz	Cyanaz	Other		
9678	John Clark drain	ND(LO.1)	ND	ND	ND	ND	ND	0.3	ND	ND	ND	ND	ND
9679	Station #1	ND	ND	ND	ND	ND	ND	0.3	ND	ND	ND	ND	ND
9680	Station #3A	ND	ND	ND	ND	ND	ND	0.3	ND	ND	ND	ND	ND
9681	Station #3	ND	ND	ND	ND	ND	ND	0.3	ND	ND	ND	ND	ND
9682	Indian Creek	ND	ND	ND	ND	ND	ND	0.5	0.1	ND	ND	ND	ND
9683	Coleman Drain	ND	ND	ND	ND	ND	ND	0.5	0.1	ND	ND	ND	ND
9684	Station #4	ND	ND	ND	ND	ND	ND	0.4	0.1	ND	ND	ND	ND

Macroinvertebrates collected at 21 locations in Rondeau Bay, July 1983.

ORGANISMS	STATION																				
	1-1	1-2	1-3	1-4	1-5	2-1	2-2	3	3-2	3-A	4-1	4-2	5	5-2	6	7	8	8-2	9	10	11
EPHEMEROPTERA (Mayflies)																					
Hexagenia			1																		
Caenis																		1			
HYDRACARINA (Water Mites)											1							1			
AMPHIPODS (Scuds)											1						1	38			
PELECYPODA (Clams)																					
Sphaeriidae	1	3	1	1	1	2		1	1	1	2		4		1	1					
Unionidae								1													
GASTROPODA (Snails)																					
Physidae				1														2		1	
DIPTERA (True Flies)																					
Culicidae											1										
Chironomidae	40	28	29	30	32	22	16	15	52	30	93	82	41	6	36	15	43	84	5	56	26
Ceratopogonidae	1			1		2			1				1		1						
Unident - pupae											1										
OLIGOCHETA (Worms)																					
Tubificidae	4	2			2	4				1	7	6	1	2	10	6	3	1	12		
Worms unidentified																		5			
Total Taxa	4	3	3	4	3	4	1	2	3	3	7	2	4	2	4	3	3	6	2	2	1
Total Organisms	46	33	31	33	35	30	17	16	54	32	106	88	47	8	48	22	7	132	17	57	26
Estimated Total Organisms per metre sq.	906	650	611	650	689	591	335	315	1064	630	2088	1734	925	158	946	433	138	2600	335	1123	512

Bottom samples collected with Ponar Grab.

Sediment screened through a number 30 US standard sieve.

Organisms hand picked with forceps from sediments and debris and preserved in Ethanol (alcohol).

Field observations and data collected at biological sample locations in Rondeau Bay, July 1983

Station	Secchi disc (m)	Depth (m)	Temp (°C)	Date	Time	Remarks	Total Phosphorus in sediments mg/L	Percent loss on ignition of sediments (%)
1	.55	2.2	23	27/7/83	8:00	5/5 haul Ponar grab silt and organic debris	1.57	7.37
1-2	.55	2.0	24	27/7/83	8:15	5/5 haul Ponar grab silt, organic debris - rooted aquatic plants present		
1-3	.55	2.0	24	27/7/83	8:30	5/5 haul Ponar grab silt organic debris - sample taken in aquatic plant bed		
1-4	.5	1.8	24	27/7/83	8:50	5/5 haul Ponar grab silt, organic debris - sample taken in aquatic plant bed	0.20	6.32
1-5	.8	2	25	27/7/83	12:00	5/5 haul Ponar grab silt, organic debris - some aquatic plants present		
2	.45	2.2	24	27/7/83	9:15	5/5 haul Ponar grab silt, organic debris - aquatic plants present	0.12	2.79
2-2	.5	2	24	27/7/83	9:40	3/5 haul Ponar grab hard silt, clay, some gravel. No plants.		

\*Note 5/5 haul, ponar grab completely full of sediment  
3/5 haul, ponar grab only 3/5 full of sediment, etc.

Field observations and data collected at biological sample locations in Rondeau Bay, July 1983

Station	Secchi disc (m)	Depth (m)	Temp (°C)	Date	Time	Remarks	Total Phosphorus in sediments mg/L	Percent loss on ignition of sediments (%)
3A	.4	2.5	25	26/7/83	9:40	5/5 haul Ponar grab organic debris, silt. Aquatic plants present.		
3-2	.7	3.4	25	27/7/83	10:15	3/5 haul Ponar grab, sand, organic debris.	0.43	12.2
4	.35	2.5	25	26/7/83	8:00	5/5 haul Ponar grab, sand, organic debris		
3	.5	2	25	27/7/83	10:30	3/5 haul Ponar grab, hard silt	0.20	5.05
5	.5	3	25	26/7/83	8:45	5/5 haul Ponar grab, fine silt, organic debris		
5-2	.5	1.5	25	26/7/83	9:20	2/5 haul Ponar grab clean sand-silt, fine gravel		
6	.6	2	25	26/7/83	9:35	3/5 haul Ponar grab, fine sand, silt, some organic debris		
7	.5	3	24	26/7/83	10:00	5/5 haul Ponar grab, fine silt ooze, organic matter		
8	.4	2.5	24	26/7/83	10:15	5/5 haul Ponar grab, fine silt ooze		

Field observations and data collected at biological sample locations in Rondeau Bay, July 1983

Station	Secchi disc (m)	Depth (m)	Temp (°C)	Date	Time	Remarks	Total Phosphorus in sediments mg/L	Percent loss on ignition of sediments (%)
8-2	1	1	25	26/7/83	10:30	5/5 haul Ponar grab sand, organic debris, sample collected in dense aquatic plant bed	.130	4.46
9	1	5	25	28/7/83	--	5/5 haul, organic debris, peat like, and silt.		
10	.7	3	25	27/7/83	11:00	5/5 haul Ponar grab silt, ooze and organic matter	0.13	11.32
11	.6	3.2	25	27/7/83	9:40	5/5 haul Ponar grab very soft silt ooze bottom. Dredge completely buried in sediments.	0.24	10.48



RONDEAU BAY

Aquatic Plant Observations, June 15, 1983

Site #1

Secchi disc - .8 metre  
Water Temp. - 24°C  
Depth - 2 metres  
Time - 1:30 p.m.  
Wind - light

Plants

- Potamogeton pectinatus 1 - plant 20 cm (collected for
- Myriophyllum spp. 2 - plant 30 cm reference)

General Notes:

- Approximately 15 minutes diving time for each of two divers.
- Plants very sparse
- Bottom sediments loose, silty ooze
- Bottom of bay very turbid near sediments

Site 1A

Secchi disc - 1 metre  
Water temp. - 24°C  
Depth - 1.6 metres  
Time - 2:00 p.m.  
Wind - light

Plants (collected for reference)

- myriophyllum spicatum - lengths 1.6 metres, 66 cm, 62 cm, 60 cm
- Vallisneria americana - 3 cm - 20 cm, 38 cm
- Heteranthera dubia - 3 cm - 20 cm
- Potamogeton pectinatus - 18 cm

General Notes:

- Approximately 15 minutes diving time (2 divers)
- Plants very abundant, luxuriant growth
- Growth of Myriophyllum to surface
- Bottom silty sand, organic ooze (54 cm dep)
- Bottom water clear near sediments
- Many new sprouts 1-2 cm long on bottom

Site #2

Secchi disc - 0.6 metre  
Water temp. - 24°C  
Depth - 2.3 metres  
Time - 3:00 p.m.  
Wind - South 5-10 knots

Plants (collected for reference)

- Potamogeton pectinatus - 2 metres

General Notes:

- Approximately 15 minutes diving (2 divers)
- Bottom sand clay, silt, very poor visibility near bottom
- Large bed of Potamogeton pectinatus 10 metres in diameter (remaining area void of plants)

Site 2A

Secchi disc - .7 metre  
Water temp. - 25°C  
Depth - 1.6 metre  
Time - 3:30 p.m.  
Wind - South 5-10 knots

Plants (collected for reference)

- Chara - 2 cm
- Potamogeton pectinatus - 60 cm, 1 stalk

General Notes:

- Approximately 15 minutes diving time (2 divers)
- Plants very sparse
- Water very turbid near bottom
- Bottom sediments sand, silt, clay (pocketed)
- Many large unionidae clams

Site #3

Secchi disc - .8 metre  
Water temp. - 26°C  
Depth - 1.8 metre  
Time - 4:00 p.m.  
Wind - South 5-10 knots

Plants (collected for reference)

- Potamogeton pectinatus - 80 cm
- Myriophyllum specatum - 20 cm

General Notes:

- Approximately 15 minutes diving time (2 divers)
- Growth of plants very sparse
- Small bed of Potamogeton pectinatus 3 metres round, one plant every .3 metres
- Bottom hard; silty sand
- Algae scum on bottom
- Large areas of no rooted plant growth

Site #4

Secchi disc - .55 metre  
Water Temp. - 25°C  
Depth - 2.0 metres  
Time - 4:30 p.m.  
Wind - South 5-10 knots

Plants (collected for reference)

None observed

General Notes:

- Visibility poor, divers couldn't see
- Dragged grappling hook - no plants
- Soft silty ooze bottom

Site 4A

Secchi disc - .4 metre  
Water temp. - 25°C  
Depth - .7 metre  
Time - 4:45 p.m.  
Wind - south 5-10 knots

Plants

- Potamogeton pectinatus
- Potamogeton crispus
- Nuphor sp.
- Myriophyllum spp.
- Vallisneria americana

General Notes: (observations from boat)

- Mouth of Coleman Drain
- Luxuriant plant growth in shallow areas (less than 1 metre depth)
- Large beds of yellow water lily

Site #5

Secchi disc - .75 metre  
Water temp. - 24°C  
Depth - 1.6 metre  
Time - 5:00 p.m.  
Wind - South 10 knots

Plants (collected for reference)

- Vallisneria americana - 12 cm sparse
- Cladophora - 2 cm long - growing on Unionidae clams
- Potamogeton crispus - 1.4 metre long
- Ceratophyllum demersum
- Potamogeton pectinatus - sparse

General Notes:

- approximately 15 minutes (2 divers)
- plants not abundant over large area
- few small beds of Potamogeton Crispus near shore
- bottom hard silt and sand

Site #6

Secchi disc - .75 metre  
Water temp. - 24°C  
Depth - 1.7 metre  
Time - 7:00 p.m.  
Wind - south 5 knots

Plants (collected for reference)

- Vallisneria americana - 3 cm - 6 cm
- Chara - 2 cm
- Cladophora - 3 cm growing on clams

General Notes:

- approximately 15 minutes diving time (1 diver)
- plants very sparse
- hard sand bottom

Site #8

Secchi disc - .7 metre  
Water temp. - 23°C  
Depth - 2.6 metres  
Time - 8:00 p.m.  
Wind - south 5 knots

Plants

- 15 minutes diving time (2 divers)
- no plants observed
- silt sand bottom

PLANT OBSERVATIONS

Mitchell's Bay (Lake St. Clair) - June 16, 1983

Site #1 - at red buoy 12 x M14

Secchi disc - .9 m  
Water temp. - 23°C  
Depth - 1.1 metre  
Time - 10:00 a.m.  
Wind - south light

Plants

Myriophyllum sp.  
Potamogeton Richardsoni - 75 cm length  
Vallisneria americana - 15 cm length  
Heteranthera dubia  
Potamogeton pectinatus  
Elodea  
Najas flexilis  
Potamogeton ampifolius - 130 cm length

General Notes:

- Vallisneria americana very common, growing luxuriantly in 1.5 - 2 metres of water. Bottom sediment sand and silt. The algae Chara sp. common in sandy areas. Plant beds very healthy appearance and diverse in species composition.

\*Water sample collected.

Site #2 - at red buoy XE6

Secchi disc - 1.5 metre  
Water Temp. - 23°C  
Depth - 3 metres  
Time - 11:00 a.m.  
Wind - south - light

Plants

Chara sp.

General Notes:

- outside edge of bay, clean hard sand bottom, Chara only alga present.

\*Water sample collected

Site #3 - Middle buoy (centre of Bay)

Secchi disc - .85 metre

Water temp. - 24°C

Depth - 2.1 metres

Time - 1:00 p.m.

Wind - south - light

Plants

Myriophyllum sp. - common - to surface

Vallisneria americana - common 15-20 cm

Potamogeton richardsoni - to surface

Elodea

Chara sp.

Najas flexillis

General Notes:

- Bottom silty sand, water turbid near sediments.
- Plant growth diverse and luxuriant. Bottom covered with Chara and Najas in this area.

\*Water sample collected.

Rondeau Bay - Dissolved Oxygen Sampling  
Under Ice Cover - February 1 & 2, 1984

<u>Date</u>	<u>Station</u>	<u>Temperature</u> (°C)	<u>D.O.</u> (mg/l)	<u>Time</u>	<u>Depth</u> (m)
Feb 2	1	T - 0.5 B - 1.0	17.5 13.5	14:00	1.1
Feb 2	2	T - 0.0 B - 1.0	16.8 15.4	14:30	1.0
Feb 2	3	T - 0.5 B - 3.2	16.0 15.8	12:00	1.75
Feb 1	4	T - 0.0 B - 2.0	17.8 12.0	14:00	2.0
Feb 1	5	T - 1.0 B - 2.0	17.8 16.0	12:30	2.0
Feb 2	6	T - 0.0 B - 2.0	18.0 17.0	11:15	1.5
Feb 2	7	T - 1.0 B - 3.0	15.0 8.0	11:40	3.0
Feb 1	10	T - 0.4 B - 3.2	17.6 9.5	14:15	2.8

\*Ice cover approximately 0.5 - 0.7 m thick

Water clear under ice cover. Bottom visible at all sites.

Station locations are shown on Figure 1.



Rondeau Bay Water Sampling  
Results for Winter Sampling Under Ice Cover  
February 1 & 2, 1984

<u>Station</u>	<u>Total Phosphorus</u> (mg/L)	<u>Suspended Solids</u> (mg/L)	<u>Turbidity</u> (FTU)
1T	0.05	13.4	10.9
B	--	--	5.7
2T	--	--	5.5
B	0.023	13.7	5.1
3T	0.019	16.1	7.3
B	0.029	15.0	2.8
4T	0.046	43.7	4.3
B	0.041	26.2	5.9
5T	0.032	5.4	4.6
B	0.027	29.6	3.8
6T	0.029	15.0	2.8
B	0.037	--	6.3
7T	0.047	29.1	3.9
B	0.031	--	16.8
10T	0.029	50.1	4.0
B	0.039	53.8	10.4

T - Top water

B - Bottom water

-- No lab results received

\*Note the low turbidity levels compared to elevated suspended solids levels.

Microscopic observation of the samples included a high density of diatoms (algae) in the water sample as opposed to suspended sediments.

Station locations are shown on Figure 1.



Stream

Station

# 1 TEP

Description

Keweenaw Bay

DATE	Dissolved Oxygen (mg/l)	pH	BOD <sub>5</sub> (mg/l)				Phosphorus		Nitrogens				pH	DO	Temp	Turb	Secchi	Temp
				Time	Depth	Temp	Total	Soil	F A	Kjel	Nitrite	Nitrate						
April 27/83	25.4	202.4		-	25m	9°C	6.64	6.04	6.64	6.63	6.63	6.63	8.23	16.0	15.2	312	24	
May 12/83	5.1	186.0		12:45	8m	14°C	6.33	6.03	6.03	6.93	6.66	6.61	8.41	15.5	6.53	325	13.9	
May 26/83				11:20	78m	12°C												
JUNE 2/83	11.6	191.2		12:15	6.0m	15°C	.039	.001	.005	.58	.004	.13	8.64	15.5	.20	301	9.7	
June 11/83	14.0	165.3		11:49	6.0m	15°C	.034	.001	.665	.52	.004	<0.01	8.61	15.5	.38	290	11.8	
June 15/83	9.6	188.5		1:30	80m	24°C	.026	<.001	.035	.54	.0001	<.01	8.40	16.0	.24	295	7.2	
June 21/83	18.8	205.8		11:42	50m	-	.044	.002	.005	.55	<.001	<.01	8.25	16.5	.75	305	17.3	
June 30/83	42.5	224.6		11:40	30m	21°C	.104	.016	.025	.80	.025	1.01	8.29	17.5	2.10	319	48	
July 1/83	24.6	184.5		11:05	30m	21°C	.056	.004	.115	.56	.007	.02	8.56	15.5	1.10	297	24	
July 14/83	10.8	210.8		10:52	50m	24°C	.037	.013	.010	.52	.010	.08	8.63	15.5	.32	296	11.6	
July 21/83	14.8	196.4		12:20	70m	26°C	.054	.005	.080	.30	<.001	.01	8.18	15.5	.42	295	10.3	
* July 29/83	32.3			-	35	21°C	.084	.004	.070	.68	.004	.03	7.98		1.18		24	
Aug 5/83	9.9			4:05	8	23°C	.027	.005	.10	.112	.013	.005	8.21	14.0	.00	270	7.6	
Aug 10/83	17.0	161.5		5:10	5	24°C									.59	272	14.8	
Aug 14/83	21.0	207.0		13:35	4	21.5°C	.083	.005	.09	.70	.008	.04	8.46	14.5	.83	275	18.8	
Aug 21/83	26.2	192.2		19:25	4	25°C	.063	.002	-	0.64	.013	0.57	8.48	14.5	0.86	272	24	
Aug 29/83	16.1	-		15:50	0.4	20°C	.041	<.001	.005	0.52	<.001	<.01	8.28	15.0	.47	270	15.3	
Sept 5/83	19.5	-		13:35	5	24.5°C	.045	.002	.010	0.60	<.001	.01	8.45	14.0	0.75	277	9.6	
Sept 11/83	30.1	-		11:10	3	23.5°C	.000	.001	.010	0.67	<.001	.01	8.25	13.0	1.25	252	22.0	
Sept 22/83	28.5	221.2		2:40	4	16°C	.054	.002	.015	0.62	.001	<.01	8.45	15.0	1.19	257	17	



Ontario

### Monitor Data Card

Stream..... Station 41 Ter Description.....

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Ministry  
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Environment

## Monitor Data Card

Stream

Station #

1. RET

Description

Pondage Bay

DATE	Suspended Solids	Total Solids	BOD <sub>5</sub> (mg/l)	Bacteria / 100 ml			Phosphorus		Nitrogens				PH	Cl	FE	COND	TURB
				Total	Fecal	Strep	Total	Sol	F A	Kjel	Nitrite	Nitrate					
April 27/83	80.4	284.2					0.078	0.004	0.010	0.61	0.005	0.15	8.24	15.5	1.48	313	30
May 12/83	13.2	134.8					0.042	0.003	0.005	0.59	0.006	0.63	8.42	15.5	0.65	308	16.4
June 2	16.5	216.6					0.039	0.001	0.005	0.63	0.004	0.14	8.64	15.5	0.30	305	11.6
June 9/83	15.3	158.4					0.036	<.001	0.070	0.62	0.003	<.01	8.63	16.0	0.43	291	11.2
June 15/83	10.9	191.4					0.031	<.001	0.050	0.73	<.001	<.01	8.46	16.0	0.26	295	7.3
June 21/83	42.3	257.2					0.068	0.002	0.015	0.77	<.001	<.01	8.24	17.0	1.33	306	26
June 30/83	53.9	241.4					0.126	0.045	0.155	1.20	0.047	1.70	8.09	17.0	2.95	329	65
July 7/83	24.6	184.5					0.056	0.004	0.115	0.56	0.007	0.02	8.38	15.5	1.10	314	41
July 14/83	19.5	223.4					0.060	0.006	0.030	0.71	0.010	0.11	8.27	15.5	0.71	302	21
July 21/83	25.9	212.9					0.06	0.002	0.245	0.66	<.001	<.01	8.17	15.5	0.71	297	17.8
July 29/83	26.6						0.070	0.003	0.100	0.67	0.004	0.02	8.07		0.94		23
August 5/83	12.0						0.034	0.005	0.020	0.61	0.008	0.03	8.53	14.0	0.37	280	11.2
Aug 10/83	11.8	181.5													0.59	272	16.3
Aug 14/83	22.8	214.2					0.081	0.014	0.125	0.77	0.118	0.01	8.47	14.5	1.02	277	24
Aug 21/83	20.6	188.8					0.057	0.002	0.040	0.58	0.001	0.04	8.53	15.0	0.72	274	21
Aug 27/83	26.4	-					0.066	0.001	0.030	0.67	<.001	<.01	8.53	15.0	0.92	280	21
Sept 5/83	21.3	-					0.054	0.003	0.085	0.63	0.001	<.01	8.38	14.0	0.65	278	11.5
Sept 11/83	37.3	-					0.074	0.004	0.040	0.68	<.001	<.01	8.27	13.0	1.19	279	24
Sept 22/83	28.3	207.2					0.055	0.002	0.090	0.80	0.001	<.01	8.42	15.0	1.13	289	22
Sept 27/83	16.2	-					0.048	0.009	0.110	0.39	0.001	0.07	8.31	15.0	0.76	294	11.3



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## Monitor Data Card

Stream..... Station #1 But Description.....

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Environment

Monitor Data Card

Stream

Station

# 2 TOP

Description

Pondreau Bay

DATE	Suspended Solids	Total Solids	BOD <sub>5</sub> (mg/l)				Phosphorus		Nitrogens				pH	Cl	FC	Conc. in water (µg/l)	Turb	
				Time	Secchi Disc	Temp.	Total	Sol	F A	Kjel	Nitrite	Nitrate						
Apr 27/83	24.1	216.1		--	.40m	9°C	0.146	0.003	0.010	0.50	0.005	0.70	8.26	16.6	0.56	309	23	
May 12/83	8.8	173.9		1:15	.50m	--	0.035	0.002	0.005	0.44	0.006	0.56	8.42	15.5	0.56	295	15.8	
May 26/83	12.9	172.2		11:55	.70m	12°C	0.032	0.002	0.050	.47	.004	.36	8.53	11.0	.46	306	12.5	
June 2/83	10.4	183.8		11:45	.70m	14°C	0.033	<.001	0.010	.55	.004	.18	8.65	15.5	.23	304	9.8	
June 9/83	10.4	160.8		12:20	.80m	16°C	0.035	<.001	0.100	.73	.002	<.01	8.59	16.5	.22	297	8.7	
June 15/83	13.2	199.0		--	.60m	24°C	0.030	0.001	0.015	.49	<.001	<.01	8.42	16.0	.33	295	9.8	
June 21/83	14.9	201.3		12:00	.60m	--	0.038	0.001	<.005	.54	<.001	<.01	8.34	16.5	.59	301	14.4	
June 30/83	26.0	193.3		12:05	.40m	21°C	0.061	0.010	0.010	.57	.002	<.01	8.40	16.5	1.05	310	23	
July 7/83	22.8	196.2		11:15	.40m	22°C	0.061	0.005	0.140	.63	.009	.11	8.45	15.5	1.02	302	22	
July 14/83	18.6	223.7		11:07	.40m	24°C	0.046	0.007	0.015	.58	.010	.08	8.61	15.5	.69	296	17.8	
July 21/83	20.2	200.0		12:27	.5m	27°C	0.152	0.005	0.050	.20	<.001	<.01	8.39	15.5	.57	286	16.2	
July 29/83	136.1			--	>.10m	23°C	0.365	0.034	0.105	1.10	0.023	.59	7.98		12		212	
Aug 5/83	17.9			11:19	.5	24°C	0.045	0.003	0.005	.54	0.003	<.01	8.04	14.5	.71	280	15.5	
Aug 10/83	20.1	183.8		4:50	.5	24°C									.58	272	16.7	
Aug 14/83	19.3	208.2		13:30	.5	22°C	0.062	0.002	0.115	.63	.006	<.01	8.55	15.0	.72	270	18.9	
Aug 21/83	15.4	182.9		18:43	0.5	24.5°C	0.045	0.001	0.005	0.58	<.001	0.01	8.57	15.0	.44	272	14.8	
Aug 29/83	22.8	--		15:40	0.5	29.5°C	0.055	<.001	0.050	0.67	<.001	<.01	8.52	15.0	.52	285	20	
Sep 5/83	31.5	--		13:00	0.4	25°C	0.060	0.002	0.010	0.62	<.001	<.01	8.46	14.0	1.21	275	23	
Sep 11/83	25.6	--		11:30	0.4	22.5°C	0.055	0.003	0.010	0.65	<.001	<.01	8.33	13.0	1.03	282	19.0	
Sep 22/83	29.2	212.0		3:00	0.45	15°C	0.056	0.002	0.010	0.66	.001	<.01	8.52	15.0	1.23	286	16	

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Ontario

### Monitor Data Card

## Stream

Station

### Description

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## Monitor Data Card

Stream

Station

#2 BET

Description

Randeau Bay

DATE	SS	TS	BOD <sub>5</sub> (mg/l)	Bacteria / 100 ml			Phosphorus		Nitrogens				PH	Cl	EC	COND	TURB	
				Total	Fecal	Strep	Total	Sol	F A	Kjel	Nitrite	Nitrate						
April 27/83	44.3	241.6					0.053	0.004	0.005	0.59	0.005	0.70	8.24	15.5	1.15	311	26	
May 12/83	16.4	197.6					0.037	0.003	0.005	0.46	0.000	0.57	8.44	15.5	0.65	295	16.5	
May 26/83	13.6	175.4					.039	.002	.070	.58	.004	.28	8.54	11.5	.53	306	13.7	
June 2/83	14.0	189.6					.037	.001	.010	.59	.004	.18	8.66	15.5	.37	305	11.6	
June 9/83	151.1	10.1					.031	.005	.210	.59	.027	.48	8.59	16.0	.18	295	8.6	
June 15/83	12.4	191.5					.033	.001	.030	.57	<.001	<.01	8.52	16.0	.34	296	8.3	
June 21/83	21.2	206.8					.042	.002	.015	.62	<.001	<.01	8.33	16.5	.75	301	18.6	
June 30/83	43.5	236.8					.077	.012	.065	.70	.001	.01	8.39	17.0	1.53	311	32	
July 7/83	35.1	215.3					.072	.005	.085	.60	.013	.17		16.0	1.44			
July 14/83	23.8	234.3					.065	.009	.020	.70	.010	.09	8.64	15.5	1.05	298	23	
July 21/83	29.0	212.2					.061	.003	.090	.32	<.001	<.01	8.48	15.5	.85	287	23	
July 29/83	136.0						.360	.037	.115	1.05	.024	.58	8.01		1.2		218	
Aug 5/83	53.6						.081	.005	.045	.64	.000	.01	8.47	14.0	2.05	214	47	
Aug 10/83	48.7	208.8													1.54	274	30	
Aug 14/83	26.4	221.1					.088	.010	.100	.77	.110	<.01	8.54	15.0	1.18	275	26	
Aug 21/83	15.3	180.0					.042	<.001	.015	0.56	<.001	<.01	8.61	15.0	.55	273	15.6	
Aug 27/83	99.4	-					.121	.002	.020	0.78	<.001	<.01	8.47	15.0	2.50	280	93	
Sept 5/83	30.9	-					.060	.003	.060	0.64	.001	<.01	8.45	14.0	1.10	275	24	
Sept 11/83	27.5	-					.064	.003	.040	0.67	.002	<.01	8.30	13.5	1.17	283	23.0	
Sept 22/83	25.3	205.2					.058	.004	.040	0.78	.001	<.01	8.54	15.0	1.29	286	24	





Ontario

## Monitor Data Card

Stream	Station	Description
	#2 Bot	

[illegible]



Ontario

Ministry  
of the  
Environment

## Monitor Data Card

Stream

Station

# 3 T.C.P.

Description

Rondeau Bay

DATE	SS	TS	BOD <sub>5</sub> (mg/l)				Phosphorus		Nitrogens				PH	Cl	EC	LCR	TURB	
				Time	Secchi Disc	Temp	Total	Sol	F A	Kjel	Nitrite	Nitrate						
April 27/83	26.1	266.0		--	.35m	9°C	0.044	0.004	0.005	0.47	0.004	0.00	8.27	15.5	0.85	306	22	
May 12/83	9.7	183.6		1:30	.80m	15°C	0.035	0.003	0.005	0.46	0.006	0.00	8.44	15.5	0.55	300	15.0	
May 26/83	16.1	183.0		12:10	.50m	13°C	.046	.001	.050	.61	.004	.34	8.50	16.5	.68	545	17.8	
June 2/83	13.5	207.2		11:32	.60m	14°C	.039	<.001	.005	.57	.003	.15	8.63	15.5	.37	305	12.0	
June 9/83	11.3	144.2		12:25	.80m	16°C	.030	<.001	.055	.56	<.001	.26	8.59	16.0	.14	294	9.4	
June 15/83	9.6	190.2		4:00	.80	26°C	.028	<.001	.010	.50	<.001	<.01	8.38	16.0	.20	296	7.4	
June 21/83	16.6	200.6		12:20	.60m	--	.043	.002	.005	.53	<.001	<.01	8.31	16.5	.78	303	16.9	
June 30/83	26.9	214.0		12:15	.45m	22°C	.056	.004	.005	.53	<.001	<.01	8.43	17.0	1.04	310	20	
July 7/83	18.7	191.8		11:36	.30m	22°C	.061	.002	.095	.69	.013	.40	8.69	15.5	.86	306	18.4	
July 14/83	17.4	217.6		11:14	.40m	26°C	.048	.007	.015	.62	.008	.06	8.58	15.5	.64	289	16.7	
July 21/83	23.9	201.1		12:32	.50m	27°C	.060	.004	.045	.38	<.001	<.01	8.48	15.5	.66	288	18.7	
Aug 5/83	14.3			11:25	.6	25°C	.043	.002	.010	.58	.008	.03	8.77	14.5	.51	276	14.4	
Aug 10/83	15.6	174.4		4:45	.5	24°C									.41	277	10.9	
Aug 14/83	23.5	225.4		13:40	.4	22	.102	.018	.140	.76	.020	.01	8.57	14.5	1.07	275	22	
Aug 21/83	17.9	179.0		18:25	0.5	24.5	.042	.002	.005	0.57	<.001	<.01	8.58	15.0	0.53	272	16.2	
Aug 29/83	18.9	-		15:20	0.6	26	.053	.001	.015	0.65	<.001	<.01	8.46	15.0	0.58	280	18.7	
Sept 15/83	28.5	-		12:50	0.4	25	.058	.003	.020	0.61	<.001	<.01	8.46	14.0	1.02	275	22	
Sept 11/83	32.0	-		11:45	0.3	24.5	.067	.004	.040	0.72	.003	<.01	8.23	13.5	1.17	280	27.0	
Sept 22/83	41.0	226.5		-	-	-	.081	.006	.060	0.70	.007	.09	8.39	13.5	2.05	295	41	
Sept 27/83	15.5			2:55	0.6	16	.038	.004	.065	0.52	.001	.02	8.37	15.0	0.64	296	13.7	

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## Environment

### Monitor Data Card

Stream	Station	Description
	#3 TOP	

[illegible]



Stream..... Station #3 B.O.T. Description RONDEAU BAY.

DATE	SS	TS	BOD <sub>5</sub> (mg/l)	Bacteria / 100 ml			Phosphorus		Nitrogens				PH	CI	FE	COND	TURB
				Total	Fecal	Strep.	Total	Sol	F A	Kjel	Nitrite	Nitrate					
April 27/83	251.7	511.9					0.126	0.003	<0.005	0.66	0.004	0.59	8.25	15.5	1.95	306	35
May 12/83	12.6	194.8					0.040	0.003	0.005	0.52	0.006	0.60	8.45	16.0	0.66	300	18.3
May 26/83	17.6	192.7					.048	.001	.045	.61	.004	.32	8.5	16.5	.80	311	19.3
June 2/83	14.2	193.8					.042	.001	.010	.65	.003	.16	8.63	15.5	.42	307	13.7
June 9/83	11.3	163.2					.029	<.001	.080	.63	<.001	<.01	8.63	16.0	.19	295	9.2
June 15/83	10.5	196.2					.027	.005	.010	.49	<.001	<.01	8.42	16.0	.20	296	6.9
June 21/83	19.0	207.5					.048	.002	.015	.70	<.001	<.01	8.30	17.0	.75	304	17.8
June 30/83	79.4	332.3					.081	.006	.065	.63	.001	<.01	8.39	17.0	1.29	311	24
July 7/83	32.0	223.5					.084	.005	.125	.72	.024	.77	8.58	16.0	1.74	318	33
July 14/83	18.1	219.7					.054	.012	.020	.67	.008	.06	8.57	15.5	.66	290	17.4
July 21/83	27.3	206.0					.160	.003	.105	.47	<.001	<.01	8.45	15.5	.72	289	21
Aug 5/83	17.4						.045	.004	.015	.67	<.001	<.01	8.76	14.5	.63	280	17.2
Aug 10/83	15.5	177.4													.46	279	12.7
Aug 14/83	36.2	235.0					.107	.004	.045	.90	.147	<.01	8.42	14.5	1.67	280	36
Aug 21/83	24.8	190.1					.052	<.001	.010	0.61	<.001	<.01	8.55	15.0	.72	272	20
Aug 27/83	19.7	-					.064	.001	.025	0.71	<.001	<.01	8.45	15.0	0.71	280	14.0
Sept 5/83	34.0	-					.065	.003	.070	0.69	.001	<.01	8.41	14.0	1.06	278	22
Sept 11/83	32.9	-					.059	.004	.070	0.71	.003	<.01	8.15	13.5	1.24	282	10.5
Sept 20/83	35.2	228.2					.081	.008	.080	0.70	.007	.09	8.37	16.5	2.10	295	43
Sept 27/83	27.0						.046	.006	.090	0.47	.001	<.01	8.35	14.5	0.85	295	15.4



Ontario

### Monitor Data Card

## Stream

Station.

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### Description

[illegible]





Stream

Station

# 4 TOP

Description

Rondeau Bay

DATE	S.S	T.S	BOD <sub>5</sub> (mg/l)				Phosphorus		Nitrogens				PH	Cl	FE	COND	TURB
				Time	Secchi Disc	Temp	Total	Sol	F A	Kjel	Nitrite	Nitrate					
April 27/83	85.1	217.2		--	.25m	9°C	0.083	0.004	<0.005	0.55	0.003	0.41	8.22	15.5	1.75	302	42
May 12/83	16.2	203.0		2:05	.50m	14°C	0.051	0.003	0.005	0.61	0.008	0.82	8.50	16.5	0.87	300	21
May 26/83	20.9	194.6		12:37	.40m	13°C	.061	.004	.060	.66	.006	.44	8.41	16.5	1.07	316	24
June 2/83	11.2	188.4		11:22	.70m	14°C	.043	<.001	<.005	.57	.003	.18	8.6	16.0	.36	306	10.2
June 9/83	10.9	155.2		1:00	.70m	17°C	.037	.004	.110	.65	.003	.02	8.56	16.0	.22	301	8.8
June 15/83	14.2	195.6		--	.55m	25°C	.029	.001	.005	.47	<.001	<.01	8.36	16.0	.50	297	10.4
June 21/83	19.8	203.1		12:45	.60m	--	.046	.001	<.005	.56	<.001	<.01	8.34	17.0	.86	303	21
June 30/83	17.1	191.5		1:00	.60m	22°C	.040	.004	.055	.48	.003	.04	8.37	15.5	.61	297	13.4
July 7/83	23.4	196.8		12:00	.30m	22°C	.069	.004	.120	.67	.011	.18	8.56	16.0	1.22	307	26
July 14/83	19.7	223.5		11:37	.30m	26°C	.056	<.001	.005	.64	.008	.08	8.66	16.0	.72	289	19.0
July 21/83	29.8	204.9		12:51	.40m	27°C	.067	.004	.030	.25	<.001	<.01	8.45	15.5	.93	286	23
Aug 5/83	20.7			11:45	.45	26°C	.059	.001	.020	.73	.006	.01	8.85	15.0	.79	280	20
Aug 10/83	19.1	174.9		4:40	.5	24									.61	275	19.5
Aug 14/83	26.4	220.3		13:53	.4	22°C	.076	.009	.145	.79	.017	<.01	8.60	15.0	.93	272	24
Aug 21/83	21.3	181.6		13:10	.5	25°C	.055	.001	.005	0.59	<.001	<.01	8.63	15.0	0.73	272	23
Aug 29/83	22.4	-		15:00	.5	25.5°C	.075	<.001	.035	0.78	<.001	<.01	8.27	15.0	0.83	295	17.9
Sept 5/83	11.5	-		12:15	.4	25°C	.076	.003	.010	0.72	.002	<.01	8.42	14.0	1.47	278	33
Sept 11/83	28.0	-		10:05	0.3	24.5	.067	.003	.015	0.68	<.001	<.01	8.20	14.5	1.26	282	25.0
Sept 22/83	74.6	247.8		5:30	0.3	14°C	.105	.003	.015	0.90	.003	.04	8.29	15.0	2.65	275	56
Sept 27/83	24.5	-		2:50	0.5	16°C	.051	.006	.110	0.49	.005	.02	8.33	15.0	1.13	298	23.0



Stream	Station	Description
	# 4 TOP	

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Ontario

Ministry  
of the  
Environment

## Monitor Data Card

Stream.....

Station.....

#4. BAT

Description.....

RONDEAU BAY

DATE	SS	T.S	BOD <sub>5</sub> (mg/l)	Bacteria / 100 ml			Phosphorus		Nitrogens				PH	Cl	FE	COND	TURB
				Total	Fecal	Strep.	Total	Sol	F A	Kjel	Nitrite	Nitrate					
April 27/83	57.8	243.7					0.084	0.005	<0.005	0.65	0.004	0.40	8.19	15.0	2.05	301	51
May 12/83	16.3	210.8					0.052	0.004	0.010	0.55	0.008	0.84	8.52	16.5	0.97	310	23
May 26/83	142.4	315.8					.134	.005	.050	1.08	.005	.44	8.34	17.0	3.65	315	73
June 2/83	14.3	198.4					.043	.001	.010	.63	.003	.19	8.62	16.0	.47	308	12.3
June 9/83	12.4	158.8					.049	.001	.115	.80	.004	.02	8.57	16.0	.24	303	9.1
June 15/83	16.4	195.8					.032	.001	.010	.52	<.001	<.01	8.34	16.0	.52	297	11.7
June 21/83	23.3	205.7					.053	.002	.020	.64	<.001	<.01	8.29	16.5	.98	305	21
June 30/83	30.4	208.6					.056	.004	.070	.58	.004	.09	8.36	16.0	.91	296	18.6
July 7/83	46.0	229.2					.106	.011	.075	.74	.051	.80	8.31	16.0	2.44	314	50
July 14/83	23.5	234.9					.067	.022	.005	.62	.008	.08	8.71	16.0	.87	289	21
July 21/83	44.4	234.6					.06	.003	.070	.36	<.001	<.01	8.44	16.0	1.46	286	33
Aug 5/83	26.2	-					.062	.002	.030	.69	.010	.01	8.68	15.0	1.13	280	26
Aug 10/83	23.6	186.5													.80	279	21
Aug 14/83	30.1	224.0					.088	.016	.125	.82	.105	<.01	8.50	15.0	1.15	276	27
Aug 21/83	19.4	194.3					.053	.001	.005	0.64	<.001	<.01	8.69	15.0	.70	274	20
Aug 27/83	23.3	-					.069	.003	.075	0.72	<.001	<.01	8.21	15.0	0.94	295	24
Sept 5/83	42.3	-					.078	.003	.060	0.71	.001	<.01	8.37	14.0	1.47	279	35
Sept 11/83	28.2	-					.067	.003	.065	0.72	.001	<.01	8.17	14.5	1.23	285	26
Sept 22/83	80.9	257.5					.097	.004	.040	0.81	.004	.06	8.32	14.5	2.45	275	55
Sept 27/83	24.5	-					.057	.009	.145	0.48	.002	<.01	8.32	15.5	1.16	298	23.0

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Stream..... Station # 4 BOT..... Description.....

[illegible]



Ontario

Ministry  
of the  
Environment

## Monitor Data Card

Stream..... Station #5 TOP Description RONDEAU BAY

DATE	S.S.	T.S.	BOD <sub>5</sub> (mg/l)				Phosphorus		Nitrogens				PH	Cl	FE	COND	TURB
				Time	Secchi Disc	Temp	Total	Sol	F. A	Kjel	Nitrite	Nitrate					
April 27/83	35.9	207.0		--	.25m	9.5°C	0.074	0.004	<0.005	0.66	0.006	0.75	8.24	16.0	1.95	311	41
May 12/83	12.7	205.3		2:35	.50m	14°C	0.044	0.003	<0.005	0.52	0.006	1.66	8.48	15.5	0.77	305	19.5
May 26/83	13.0	187.8		1:06	.60m	12°C	0.044	0.002	0.055	0.61	0.004	0.33	8.44	16.0	0.47	312	12.9
June 2/83	9.1	190.0		11:10	.80m	16°C	0.035	<0.001	0.005	0.55	0.003	0.19	8.63	15.5	0.20	305	7.9
June 9/83	9.9	160.0		1:55	.80m	17°C	0.032	0.001	0.085	0.58	0.003	<0.01	8.60	16.5	0.20	302	8.8
June 15/83	11.0	187.6					0.027	0.001	0.005	0.52	<0.001	<0.01	8.36	16.0	0.26	295	7.3
June 21/83	12.5	194.4		1:05	.50m	--	0.037	0.001	0.005	0.59	<0.001	<0.01	8.31	16.5	0.51	304	13.4
June 30/83	15.4	193.2		1:20	.60m	22°C	0.045	0.005	0.040	0.50	0.004	0.04	8.30	15.5	0.58	297	13.6
July 7/83	22.3	193.0		12:30	.30m	22°C	0.063	0.004	0.110	0.62	0.021	0.43	8.49	16.0	1.06	306	23
July 14/83	14.2	221.2		11:55	.50m	25°C	0.032	0.011	0.015	0.57	0.001	0.16	8.71	15.5	0.29	292	11.4
July 21/83	20.0	200.8		1:02	.60m	28°C	0.034	0.003	0.045	0.15	<0.001	<0.01	8.52	15.5	0.48	283	15.3
Aug 5/83	19.4	--		12:05	.45	25°C	0.058	0.001	0.020	0.72	0.006	0.04	8.70	14.5	0.81	279	20
Aug 10/83	17.5	168.4		4:20	.5	24°C									0.56	272	14.6
Aug 14/83	16.3	213.0		11:07	.5	21°C	0.066	0.006	0.105	0.70	0.001	<0.01	8.54	14.5	0.59	280	15.7
Aug 21/83	19.9	187.6		17:05	0.4	25°C	0.060	0.003	0.010	0.67	0.001	0.01	8.58	15.0	0.76	270	21
Aug 29/83	21.2	--		18:20	0.5	--	0.060	0.001	0.025	0.71	0.001	0.01	8.43	15.0	0.76	280	12.6
Sept. 5/83	33.4	--		15:15	0.4	25.5°C	0.070	0.002	0.025	0.68	0.001	<0.01	8.36	14.5	1.02	279	25.0
Sept. 11/83	12.3	--		8:40	0.6	24°C	0.033	0.003	0.045	0.60	0.001	0.01	8.24	14.0	0.37	279	9.6
Sept. 22/83	55.7	238.8		5:10	0.3	14°C	0.073	0.002	0.020	1.12	0.001	<0.01	8.37	14.5	1.81	278	37
Sept 27/83	15.7	--		2:40	0.65	16°C	0.036	0.004	0.080	0.34	0.001	0.01	8.41	15.0	0.51	283	11.5

Ministry  
of the  
Environment

## Stream

Station # 5 Top

### Description

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Ontario

Ministry  
of the  
Environment

## Monitor Data Card

Stream.....

Station.....

# 5 B.O.T.

Description.....

RONDEAU BAY.

DATE	S.S.	T.S.	BOD <sub>5</sub> (mg/l)	Bacteria / 100 ml			Phosphorus		Nitrogens				PH	Cl	FE	COND	TURB	
				Total	Fecal	Strep.	Total	Sol	F A	Kjel	Nitrite	Nitrate						
April 27/83	73.9	266.2					0.101	0.005	<0.005	0.90	0.005	0.78	8.22	15.5	3.10	313	6.6	
May 12/83	13.7	209.6					1.149	0.005	0.005	0.51	0.006	0.76	8.41	15.5	0.97	305	24	
May 26/83	15.5	185.3					.047	.002	.065	.66	.004	.34	8.43	16.0	.62	312	14.4	
June 2/83	9.1	199.4					.035	<.001	.010	.61	.004	.20	8.65	16.0	.19	309	7.7	
June 9/83	12.9	163.9					.039	.002	.100	.65	.004	.03	8.61	16.5	.33	303	11.2	
June 15/83	12.2	196.2					.034	<.001	.005	.55	<.001	<.01	8.41	16.5	.35	296	8.9	
June 21/83	33.7	217.3					.054	.002	.020	.68	.002	<.01	8.09	17.0	1.22	306	25	
June 30/83	15.5	199.4					.049	.005	.065	.58	.003	.04	8.30	15.5	.58	297	13.7	
July 7/83																		
July 14/83	18.6	225.8					.038	.004	.010	.72	.011	.17	8.71	15.5	.50	293	12.2	
July 21/83	20.3	197.2					.049	<.001	.095	.45	<.001	<.01	8.55	16.0	.46	283	16.7	
Aug 5/83	28.5	--					.061	.002	.045	.77	.005	.04	8.65	14.0	.94	276	21	
Aug 10/83	26.5	186.4													.92	274	23	
Aug 14/83	21.2	217.6					.074	.004	.060	.75	<.001	<.01	8.48	15.0	.83	280	20	
Aug 21/83	45.6	215.4					.097	.002	.060	0.97	.001	<.01	8.30	15.5	1.77	279	35	
Aug 29/83	21.2	-					.667	.001	.045	0.77	<.001	<.01	8.46	15.0	.74	280	18.6	
Sept 5/83	36.9	-					.070	.003	.060	0.89	.001	<.01	8.35	14.5	1.12	279	32.0	
Sept 11/83	14.3	-					.032	.002	.020	0.63	<.001	<.01	8.26	14.0	0.38	275	11.1	
Sept 22/83	45.9	218.8					.067	.006	.040	1.00	.001	<.01	8.38	15.0	1.50	279	33	
Sept 27/83	20.5	-					.039	.004	.085	0.51	.001	<.01	8.44	14.5	0.78	284	14.4	



Stream	Station	#	S	B	T	Description

[illegible]





Ontario

Ministry  
of the  
Environment

Monitor Data Card

Stream

Station # 6 TOP

Description

RONDEAU BAY

DATE	SS	TS	BOD <sub>5</sub> (mg/l)				Phosphorus		Nitrogens				PH	Cl	FE	COND	TURB
				Time	Secchi Disc	Temp	Total	Sol	F A	Kjel	Nitrite	Nitrate					
April 27/83	53.8	249.0		--	.25m	9.5°C	0.080	0.007	<0.005	0.72	0.007	0.83	8.19	16.0	2.20	313	53
May 12/83	15.9	211.6		2:45	.50m	14°C	0.052	0.005	<0.005	0.55	0.007	0.74	8.40	15.0	1.01	305	26
May 26/83	15.3	185.3		1:17	.60m	12°C	.049	.002	.055	.64	.004	.35	8.43	16.0	.68	312	18.3
June 2/83	12.2	198.4		12:10	.60m	14.5°C	.042	<.001	.005	.59	.004	.18	8.66	15.5	.32	309	10.8
June 9/83	9.4	154.9		2:20	.80m	16°C	.031	.001	.090	.58	.003	<.01	8.60	16.5	.20	300	8.6
June 15/83	10.7	191.2		--	.75m	24°C	.038	<.001	.010	.59	<.001	<.01	8.26	16.5	.23	295	8.8
June 21/83	10.9	191.8		1:37	.70m	--	.034	.002	.005	.56	.001	<.01	8.30	16.5	.47	303	11.3
June 30/83	17.8	191.8		1:30	.60m	22°C	.050	.007	.055	.50	.005	.02	8.26	15.5	.71	297	16.8
July 7/83	19.1	203.6		1:30	.30m	22°C	.063	.004	.185	.81	.024	.53	8.72	16.0	.84	307	20
July 14/83	14.6	209.6		1:00	.50m	26°C	.027	.003	.005	.60	.009	.12	8.67	15.5	.30	292	13.2
July 21/83	27.7	204.6		1:10	.60m	28°C	.057	.003	.040	.34	<.001	<.01	8.53	16.0	.69	287	19.7
Aug 5/83	14.4	--		12:11	.7	25°C	.044	.001	.020	.65	<.001	<.01	8.84	14.0	.39	270	11.4
Aug 10/83	14.8	172.1		5:50	.5	24°C									.43	279	13.4
Aug 14/83	14.9	205.7		11:39	.6	21.5°C	.054	.001	.020	.72	<.001	<.01	8.60	15.0	.48	275	14.2
Aug 21/83	25.0	195.0		20:15	0.4	24°C	.050	.003	.005	0.69	<.001	<.01	8.35	15.5	.98	276	26
Aug 29/83	14.2	--		18:30	0.6	--	.045	<.001	.010	0.61	<.001	<.01	8.58	15.0	.35	275	10.2
Sept 5/83	22.2	--		15:05	0.5	25.5°C	.054	.002	.020	0.76	<.001	<.01	8.45	13.5	0.76	279	20.0
Sept 11/83	17.4	--		9:00	0.5	24.5°C	.052	.002	.020	0.72	<.001	<.01	8.27	13.5	0.53	279	15.5
Sept 22/83	54.5	238.8		4:00	2.5	15°C	.076	.003	.015	0.74	<.001	<.01	8.40	14.5	2.50	282	37
Sept 27/83	13.0	--		2:30	0.6	16°C	.045	.004	.085	0.45	.002	<.01	8.45	15.0	0.40	289	11.3

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Stream..... Station # 6 TOP..... Description.....

[illegible]



Ontario

Ministry  
of the  
Environment

## Monitor Data Card

Stream.....

Station # 6 BOT

Description PONDEAU BAY

DATE	SS	TS	BOD <sub>5</sub> (mg/l)	Bacteria / 100 ml			Phosphorus		Nitrogens				PH	CI	FE	COND	TURB
				Total	Fecal	Strep.	Total	Sol	F. A	Kjel	Nitrite	Nitrate					
April 27/83	64.2	259.2					0.096	0.005	0.005	0.81	0.006	0.84	8.26	16.0	2.45	314	6.2
May 12/83	23.8	236.6					0.061	0.008	0.010	0.57	0.008	0.79	8.34	15.5	1.47	310	33
May 26/83	14.8	198.1					0.050	0.001	0.070	0.67	0.004	0.34	8.41	16.0	0.72	311	19.3
June 2/83	81.4	291.4					0.058	0.004	0.010	1.14	0.004	0.19	8.62	15.5	2.10	309	48
June 9/83	11.6	170.2					0.040	0.001	0.100	0.68	0.003	<0.01	8.61	15.5	0.23	299	8.5
June 15/83	13.4	199.6					0.033	0.026	0.005	0.61	<0.001	<0.01	8.26	16.5	0.28	296	7.8
June 21/83	12.4	195.2					0.035	0.002	0.015	0.58	0.001	<0.01	8.34	16.5	0.48	302	12.6
June 30/83	24.7	199.8					0.064	0.008	0.070	0.62	0.004	0.04	8.14	15.5	1.01	300	22
July 7/83	19.5	197.2					0.064	0.006	0.205	0.84	0.025	0.58	8.70	16.0	0.95	307	20
July 14/83	15.4	210.2					0.033	0.002	0.005	0.66	0.008	0.13	8.70	15.5	0.35	294	10.8
July 21/83	25.6	203.8					0.058	0.002	0.090	0.50	<0.001	<0.01	8.55	15.5	0.70	287	22
Aug 5/83	14.8	—					0.044	0.007	0.120	0.69	0.003	<0.01	8.77	14.0	0.44	272	13.8
Aug 10/83	16.1	179.6													0.44	275	13.6
Aug 14/83	21.4	220.4					0.058	0.002	0.075	0.79	<0.001	<0.01	8.53	15.0	0.78	280	19.4
Aug 21/83	23.8	194.0					0.048	0.002	0.020	0.67	<0.001	<0.01	8.43	15.0	0.42	277	24
Aug 29/83	13.7	—					0.045	<0.001	0.040	0.61	<0.001	<0.01	8.60	15.0	0.35	275	10.4
Sept 5/83	21.5	—					0.052	0.003	0.070	0.73	0.001	<0.01	8.43	14.5	0.78	280	17.0
Sept 11/83	18.0	—					0.045	0.002	0.030	0.67	<0.001	<0.01	8.27	14.0	0.60	279	14.8
Sept 22/83	48.1	231.9					0.075	0.006	0.060	0.67	0.001	<0.01	8.40	15.0	2.05	284	43
Sept 27/83	13.0	—					0.045	0.004	0.085	0.45	0.002	<0.01	8.45	15.0	0.40	289	11.3





Stream.

Station ~~4~~ 6 BOT

### Description

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Stream

Station # 7 TOP

Description RONDEAU BAY

DATE	SS	TS	BOD <sub>5</sub> (mg/l)				Phosphorus		Nitrogens				PH	CL	FE	COND	TURB
				Time	Subs Dis	Temp	Total	Sol	F A	Kjel	Nitrite	Nitrate					
Apr 12/83	31.3	212.4		--	.33m	9.5°C	.0074	.0005	<.005	.068	.0006	.083	8.25	15.5	1.61	314	38
May 12/83	13.5	196.4		2:55	.60m	14°C	.0049	.0003	.0015	.056	.0018	.082	8.44	15.5	0.78	305	19.4
May 26/83	14.4	183.2		1:30	.70m	13.5°C	.042	.001	.070	.64	.004	.32	8.54	17.0	.60	311	16.1
June 2/83	11.8	187.8		11:50	.70m	14°C	.042	.006	.005	.60	.003	.19	8.64	15.5	.28	307	10.8
June 9/83	13.1	160.0		2:30	.80m	16°C	.044	.001	.065	.60	.003	.02	8.60	16.0	.31	300	10.8
June 15/83	8.1	190.6		7:40	.90m	24°C	.028	.025	.010	.46	<.001	<.01	8.38	16.5	.20	295	7.2
June 21/83	8.7	191.1		1:45	1.0m	--	.022	.001	.010	.50	<.001	<.01	8.45	16.0	.27	297	8.8
July 7/83	22.5	203.8		1:40	.40m	22°C	.060	.004	.100	.67	.022	.54	8.51	16.0	1.02	309	24
July 14/83	12.9	224.1		1:15	.50m	25°C	.035	.003	.005	.60	.012	.17	8.67	15.5	.35	298	11.7
July 21/83	15.2	189.8		1:24	.70m	26°C	.062	.004	.075	.20	<.001	<.01	8.55	16.0	.40	286	12.8
July 29/83	27.9			--	.35m	24°C	.065	.004	.060	.70	.005	<.01	8.15		1.09		24
Aug 5/83	18.4	--		12:15	.5	25°C	.058	.004	.095	.73	.010	.08	8.77	14.0	.70	275	16.7
Aug 10/83	13.7	168.9		5:35	.6	24°C									.40	270	10.2
Aug 14/83	14.2	204.4		12:20	.6	21°C	.044	.002	.045	.65	<.001	<.01	8.49	15.0	.44	275	12.6
Aug 21/83	13.7	179.4		19:10	0.6	24°C	.027	<.001	<.005	0.57	<.001	<.01	8.58	14.5	0.34	267	14.4
Aug 29/83	14.0	--		20:10	0.5	--	.048	<.001	.015	0.59	<.001	<.01	8.49	15.0	.40	275	10.9
Sept 5/83	26.0			14:45	0.4	25°C	.065	.003	.015	0.66	.001	<.01	8.35	13.5	0.95	281	23.0
Sept 11/83	25.9			10:45	0.4	25.5°C	.059	.002	.030	0.66	.001	<.01	8.26	13.0	0.92	280	18.3
Sept 22/83	58.2	240.4		3:30	--	15°C	.071	.006	.050	0.54	.003	.02	8.34	15.0	2.15	285	44
Sept 27/83	13.5	--		21:00	0.6	15°C	.043	.004	.110	0.46	.001	<.01	8.42	15.0	0.48	290	10.5

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Stream,

Station # 7 Top

### Description

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Ontario

Ministry  
of the  
Environment

## Monitor Data Card

Stream

Station

# 7 BOT

Description

RONDEAU BAY

DATE	S.S.	T.S.	BOD <sub>5</sub> (mg/l)	Bacteria / 100 ml			Phosphorus		Nitrogens				PH	Cl	FE	COND	TURB
				Total	Fecal	Strep.	Total	Sol	F A	Kjel	Nitrite	Nitrate					
April 27/83	41.2	229.6					0.103	0.006	<0.005	0.85	0.006	0.82	8.19	15.5	1.95	314	42
May 12/83	12.8	205.2					0.041	0.003	0.005	0.53	0.007	0.80	8.43	16.0	0.78	310	15.9
May 26/83	16.5	187.2					.047	<0.001	.050	.62	.004	.32	8.53	16.0	.72	311	17.6
June 2/83	23.8	212.5					.056	.004	.010	.71	.004	.21	8.62	15.5	.73	308	17.3
June 9/83	14.2	165.2					.046	<0.001	.090	.69	.003	.02	8.60	16.5	.38	296	11.4
June 15/83	9.5	185.3					.033	.002	.010	.49	<0.001	<0.01	8.40	16.5	.22	295	8.1
June 21/83	12.9	189.7					.034	.001	.015	.59	<0.001	<0.01	8.46	15.0	1.17	296	12.8
July 7/83	35.4	216.8					.071	.008	.075	.67	.020	.56	8.32	16.5	1.47	311	32
July 14/83	14.8	226.8					.047	.005	.005	.71	.012	.17	8.68	16.5	.41	299	12.1
July 21/83	17.6	192.3					.055	.005	.100	.32	.001	<0.01	8.49	16.0	.53	287	14.7
July 29/83	27.4	-					.064	.004	.075	.65	.005	<0.01	8.15		1.07		23
Aug 5/83	26.5	-					.060	.005	.085	.64	.007	.05	8.46	14.5	1.12	280	25
Aug 10/83	145.8	304.8													5.35	272	92
Aug 14/83	15.6	211.4					.067	.004	.095	.73	<0.001	<0.01	8.43	15.0	.53	278	13.8
Aug 21/83	16.1	184.0					.042	<0.001	.030	0.61	<0.001	<0.01	8.56	14.5	.49	270	16.2
Aug 29/83	21.8	-					.059	<0.001	.035	0.66	<0.001	<0.01	8.43	15.0	.64	280	17.6
Sept 5/83	36.3	-					.075	.010	.005	0.73	.001	<0.01	7.73	18.0	1.22	300	27
Sept 11/83	29.6	-					.065	.002	.030	0.72	.004	<0.01	8.24	13.0	0.91	278	24
Sept 22/83	86.5	273.8					.115	.008	.040	0.84	.005	.05	8.34	15.0	3.15	289	70
Sept 27/83	16.9	-					.044	.005	.115	0.41	.002	<0.01	8.38	15.0	0.65	291	13.8



Stream.

Station # 7 BOT

### Description

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Ontario

Ministry  
of the  
Environment

## Monitor Data Card

Stream.....

Station.....

# 8 TOP

Description.....

RONDEAU BAY

DATE	SS	TS	BOD <sub>5</sub> (mg/l)				Phosphorus		Nitrogens				PH	Cl	FE	COND	TURB
				Time	Secchi Disk	Temp.	Total	Sol	F A	Kjel	Nitrite	Nitrate					
April 27/83	19.9	204.4		--	.40m	9°C	6.056	0.004	<0.005	0.57	0.005	0.74	8.20	15.5	1.11	312	25
May 12/83	10.8	202.6		3:05	.60m	13°C	6.035	6.002	<0.005	0.46	6.665	0.51	8.41	16.0	0.68	300	15.0
May 26/83	6.3	163.2		1:40	.90m	9.0°C	.019	.002	.025	.31	.002	.15	8.28	16.0	.30	287	10.2
June 2/83	7.7	187.6		12:05	1.0m	14°C	.024	<.001	.010	.46	.003	.15	8.64	15.5	.13	297	6.8
June 9/83	6.7	148.2		2:25	1.2m	15°C	.022	<.001	.045	.40	.002	.04	8.56	15.5	.16	289	6.1
June 15/83	10.5	190.5		8:00pm	.7m	23°C	.028	.001	.015	.50	<.001	<.01	8.38	16.5	.26	294	8.8
June 21/83	8.8	179.7		2:00	1.0m	--	.026	.001	.010	.51	.001	<.01	8.43	16.5	.22	294	8.8
June 30/83				1:45	.50m	21°C											
July 7/83	17.3	191.8		2:00	.4m	21°C	.052	.002	.075	.63	.013	.32	8.54	16.0	.64	299	14.8
July 14	12.2	210.6		1:25	.50m	25°C	.041	.005	.010	.63	.011	.11	8.67	15.5	.30	297	9.7
July 21/83	10.2	181.1		1:34	1.0m	26°C	.018	.003	.045	.14	<.001	<.01	8.58	16.5	.16	281	7.1
July 29/83	45.2	--		--	.35m	24°C	.078	.003	.060	.75	.005	<.01	8.13		1.46		36
Aug 5/83	13.8	--		12:35	.6	25°C	.051	.004	.125	.69	.003	<.01	8.84	14.5	.42	270	11.7
Aug 10/83	11.2	166.0		5:25	.6	22°									.30	269	11.4
Aug 14/83	9.5	202.0		13:00	1.0	21°	.036	.001	.055	.48	.005	<.01	8.41	9.5	.42	275	7.5
Aug 21/83	11.4	177.6		10:30	0.7	23.5°	.024	4.001	.005	6.53	4.001	4.01	8.54	14.5	.38	270	12.3
Aug 29/83	16.3	--		14:00	0.5	--	.046	.001	.030	0.57	4.001	4.01	8.48	15.0	.44	275	14.3
Sept 5/83	14.1	--		9:36	0.8	25°	.032	.002	.030	0.52	.004	4.01	8.56	12.5	0.36	271	11.6
Sept 11/83	19.0	--		10:00	0.5	24.5°	.043	.002	.010	0.64	4.001	4.01	8.34	13.0	0.59	276	14.2
Sept 27/83	14.5	--		11:45	0.7	16°	.026	.003	.065	0.32	.004	0.03	8.34	14.5	0.46	282	11.1

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Stream..... Station # 8 Top..... Description.....

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Stream.....

Station # 8 BOT

Description RONDEAU BAY

DATE	SS <sup>1</sup>	T.S	BOD <sub>5</sub> (mg/l)	Bacteria / 100 ml			Phosphorus		Nitrogens				PH	Cl	FE	COND	TURB
				Total	Fecal	Strep.	Total	Sol	F A	Kjel	Nitrite	Nitrate					
April 27/83	20.9	219.9					0.053	0.005	<0.005	0.57	0.005	0.72	8.26	15.5	1.09	305	25
May 12/83	16.8	186.3					0.021	0.004	0.005	0.39	0.003	0.36	8.31	15.5	0.64	290	19.4
MAY 26/83	13.5	162.9					.026	.001	.025	.36	.002	.14	8.25	16.0	.43	286	12.6
June 2/83	8.8	186.8					.028	.002	.010	.48	.003	.15	8.65	15.0	.18	299	8.3
June 9/83	7.5	143.6					.028	.001	.060	.44	.003	.05	8.56	15.5	.19	289	6.7
June 15/83	11.9	187.3					.033	.001	.020	.56	.001	.08	8.37	16.5	.37	294	7.9
June 21/83	9.9	180.5					.022	.001	.015	.55	.001	<.01	8.44	15.5	.28	293	9.4
July 7/83	42.5	226.2					.079	.004	.045	.54	.014	.24	8.02	15.5	1.43	292	30
July 14/83	17.6	226.3					.056	.004	.015	.69	.011	.11	8.67	16.0	.57	299	15.5
July 21/83	48.8	246.3					.065	.005	.065	.26	.003	.09	8.26	16.0	1.38	285	28.
July 29/83	42.5						.084	.003	.070	.77	.005	<.01	8.12		1.49		35
Aug 5/83	9.5						.030	.005	.065	.48	.007	.05	8.75	14.0	.31	271	9.5
Aug 10/83	10.0	169.7													.31	272	6.7
Aug 14/83	16.3	203.7					.049	.002	.115	.67	.002	<.01	8.28	9.5	.50	280	12.6
Aug 21/83	19.5	188.7					.055	.001	.080	0.63	.005	.06	8.17	14.0	0.71	276	16.1
Aug 29/83	15.4	-					.042	4.001	.050	0.57	4.001	4.01	8.49	15.0	0.40	285	12.3
Sept 5/83	11.1	-					.030	.002	.060	0.57	.005	.05	8.52	12.5	0.33	272	7.6
Sept 11/83	19.8	-					.039	.002	.045	0.64	<.001	<.01	8.28	13.0	0.59	277	14.3
Sept 27/83	19.4	-					.035	.002	.042	0.47	.004	0.02	8.33	15.0	0.15	282	12.7





## Stream

Station # 8

BOT

### Description

0773 3/76



Ontario

Ministry  
of the  
Environment

## Monitor Data Card

Stream.....

Station.....

# 9 TOP

Description.....

Rondeau Bay - SURFACE SAMPLE  
HARBOUR MCLT

DATE	SS	T.S	BOD <sub>5</sub> (mg/l)				Phosphorus		Nitrogens				PH	CL	FE	COND	TURB
				Time	Sub. Dis	Temp	Total	Sol	F A	Kjel	Nitrite	Nitrate					
April 27/83	16.6	183.4		--	.5m	9°C	6.034	6.006	6.005	0.39	0.006	0.82	8.26	15.5	0.62	303	150
				--	--	--											
MAY 26/83	10.1	176.6		1:50	.7m	11.5°C	.030	.001	<.005	.42	.003	.24	8.39	15.5	.45	300	12.6
June 2/83	8.5	187.2		12:30	1.0m	13°C	.029	<.001	.005	.44	.003	.16	8.49	15.0	.20	296	7.9
June 9/83	9.7	134.6		2:35	1.2m	14°C	.020	.003	.035	.30	.002	.10	8.41	15.0	.25	282	7.8
June 15/83	5.7	178.4		8:05pm	1.4m	20°C	.018	<.001	.015	.36	.002	.15	8.37	15.5	.15	284	3.8
June 21/83	5.5	176.0		2:05	1.5m	18°C	.016	.001	.010	.39	.001	.07	8.41	15.0	.20	295	7.1
June 30/83				1:55	.5m	21°C											
July 7/83	6.9	167.8		2:15	.8m	18°C	.022	.007	.085	.33	.005	.14	8.36	15.0	.22	277	6.6
July 14/83	5.5	200.8		1:30	1.0m	22°C	.020	.006	.005	.22	.007	.24	8.41	14.5	.12	283	4.4
July 21/83	14.0	181.9		1:59	1.2m	25°C	<.030	<.001	.040	.30	<.001	<.01	8.57	16.0	.16	282	7.7
July 29/83	26.5			--	.40m	24°C	.050	.004	.075	.60	.003	<.01	8.13		1.02		22
Aug 5/83	2.6			12:37	3.5	25°C	.007	.004	.025	.20	.007	.11	8.60	14.0	.03	270	1.69
Aug 10/83	1.9	154.3		5:20	.6	24°C									.04	266	1.83
Aug 14/83	12.1	201.0		13:09	.7	20°C	.027	.001	.050	.46	.008	.02	8.37	9.0	.35	275	9.5
Aug 21/83	1.7	160.2		15:55	3.1	23	.010	<.001	.025	0.27	.009	0.12	8.56	14.0	.02	266	2.1
Aug 29/83	16.9	-		16:55	0.8	25°	.037	<.001	.030	0.49	.001	<.01	8.58	15.0	0.30	270	10.6
Sept 5/83	9.6	-		14:40	0.8	25°	.018	.003	.025	0.31	.006	.08	8.53	12.5	0.19	268	6.6
Sept 11/83	8.0	-		10:30	1.1	18.5°	.021	.003	.025	0.44	.024	0.15	8.03	13.0	0.24	279	6.2
Sept 27/83	13.7	-		3:45	0.7	16°	.029	.003	.065	0.55	.004	.04	8.30	15.0	0.42	278	13.4

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### Monitor Data Card

## Stream

Station #9 Top

### Description

[illegible]



Ontario

Ministry  
of the  
Environment

Monitor Data Card

Stream

Station

# 9 BOT

Description

Rondeau Bay

DATE	S.S.	T.S.	BOD <sub>5</sub> (mg/l)	Bacteria / 100 ml			Phosphorus		Nitrogens				PH	CI	FE	COND	TURB
				Total	Fecal	Strep.	Total	Sol	F A	Kjel	Nitrite	Nitrate					
June 2/83	8.7	168.6					.023	<.001	.005	.42	.004	.19	8.34	15.0	.20	290	7.4
June 15/83	4.4	168.4					.010	.002	.010	.27	.012	.05	8.38	15.0	.12	271	2.8
June 21/83	3.4	161.6					.010	.003	.025	.33	.003	.20	8.43	14.5	.07	273	3.8
July 7/83	6.8	169.0					.021	.005	.090	.30	.005	.18	8.32	15.0	.22	277	6.7
July 14/83	4.9	189.8					.026	.010	.025	.38	.007	.25	7.87	15.0	.31	284	4.9
July 21/83	15.8	177.2					.031	.009	.075	.30	.003	.09	8.29	16.0	.32	283	9.8
July 29/83	32.3	—					.056	.003	.080	.71	.002	<.01	8.14		1.28		25
Aug 5/83	2.4	—					.011	.003	.030	.26	.007	.11	8.58	14.0	.10	268	2.6
Aug 10/83	3.1	165.4													.08	266	1.46
Aug 14/83	20.4	208.1					.034	.002	.090	.60	.006	.02	8.28	9.0	.76	278	16.9
Aug 21/83	3.1	168.2					.012	.001	.025	0.29	.009	0.11	8.61	14.0	.07	266	2.3
Aug 29/83	16.4	—					.017	<.001	.050	0.50	.004	.05	8.54	15.0	.40	270	11.4
Sep 5/83	11.4	—					.022	.002	.040	6.40	.006	.09	8.51	12.5	0.32	269	7.6
Sep 11/83	12.1	—					.031	.003	.035	0.42	.019	0.15	7.88	13.5	0.33	275	6.1
Sep 27/83	17.8	—					.037	.005	.055	0.46	.004	0.05	8.26	15.0	0.64	278	15.7
Nov 8/83	14.2	183.4					.034	.002	.015	0.42	.003	0.11	8.19	15.5	0.54	283	14.5
Dec 13/83	45.3	—					.087	.025	.035	0.46	.008	0.34	8.01	16.0	2.78	284	81
Average	13.1	175.9					.029	.005	.042	.407	.006	.135	7.77	14.3	.502	2935	12.9

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Stream \_\_\_\_\_ Station #10 Description Rondeau Bay (CHLORO)

DATE	D O (mg/l)	Temp °C	BOD <sub>5</sub> (mg/l)	Bacteria / 100 ml			Phosphorus		Nitrogens				TOT	COR.	TOT
				Time	SD	Temp	Total	Sol	F A	Kjel	Nitrite	Nitrate	CHLRAT		CHLRBT
Apr 27/83				-	0.25	-							5.9		.6
May 12/83				2:30	0.5	14°							6.0	4.2	1.0
May 26/83				1:00	0.5	13°							4.7	3.4	1.2
May 30/83				-	-	-							7.4	5.4	1.0
June 2/83				11:16	0.8	15°							1.0	.5	.5
June 9/83				11:40	0.8	17°							6.0	2.9	.8
June 15/83				4:25	0.8	24°							4.5	2.9	.5
June 21/83				1:00	0.6	18°							3.7	1.7	.5
* June 30/83				1:30	0.6	22°									
July 7/83				12:25	0.3	23°							10.7	7.0	3.6
July 14/83				11:51	0.3	26°							15.0	10.0	4.3
July 21/83				12:56	0.55	28°							10.9	3.1	1.3
Aug 14/83				11:14	0.5	21.5°							12.2	8.5	3.4
Aug 16/83				4:30	0.5	24°							17.7	13.1	1.7
Aug 15/83				12:00	0.5	25°							19.3	14.3	2.8
Aug 21/83				18:00	0.5	24.5°							12.6	-	1.4
Aug 24/83				2:20	0.4	-							7.2	6.0	1.4
Sept 5/83				12:05	0.4	25.5°									
Sept 11/83				12:15	0.3	25°							16.8	15.4	1.2
Sept 27/83				2:45	0.6	16°							5.6	4.7	0.8

Ministry  
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Environment

### Monitor Data Ca

Stream

Station

### Description

[illegible]



Stream

Station

# 1A

Description

Rondeau Bay (SURFACE SAMPLE)

[illegible]

Station # 2A

Description Rondeau Bay (SURFACE STAMP)

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Station # 3B

Description Rondeau Bay

[illegible]



Stream

Station # 3C

Description.....Rondeau Bay (SURFACE SAMPLE)

[illegible]



Stream

Station

# 4A

### Description

Rondeau Bay

0773 3/76

155



Stream

Station # 4 B

Description.....Rondeau Bay

[illegible]

[illegible]

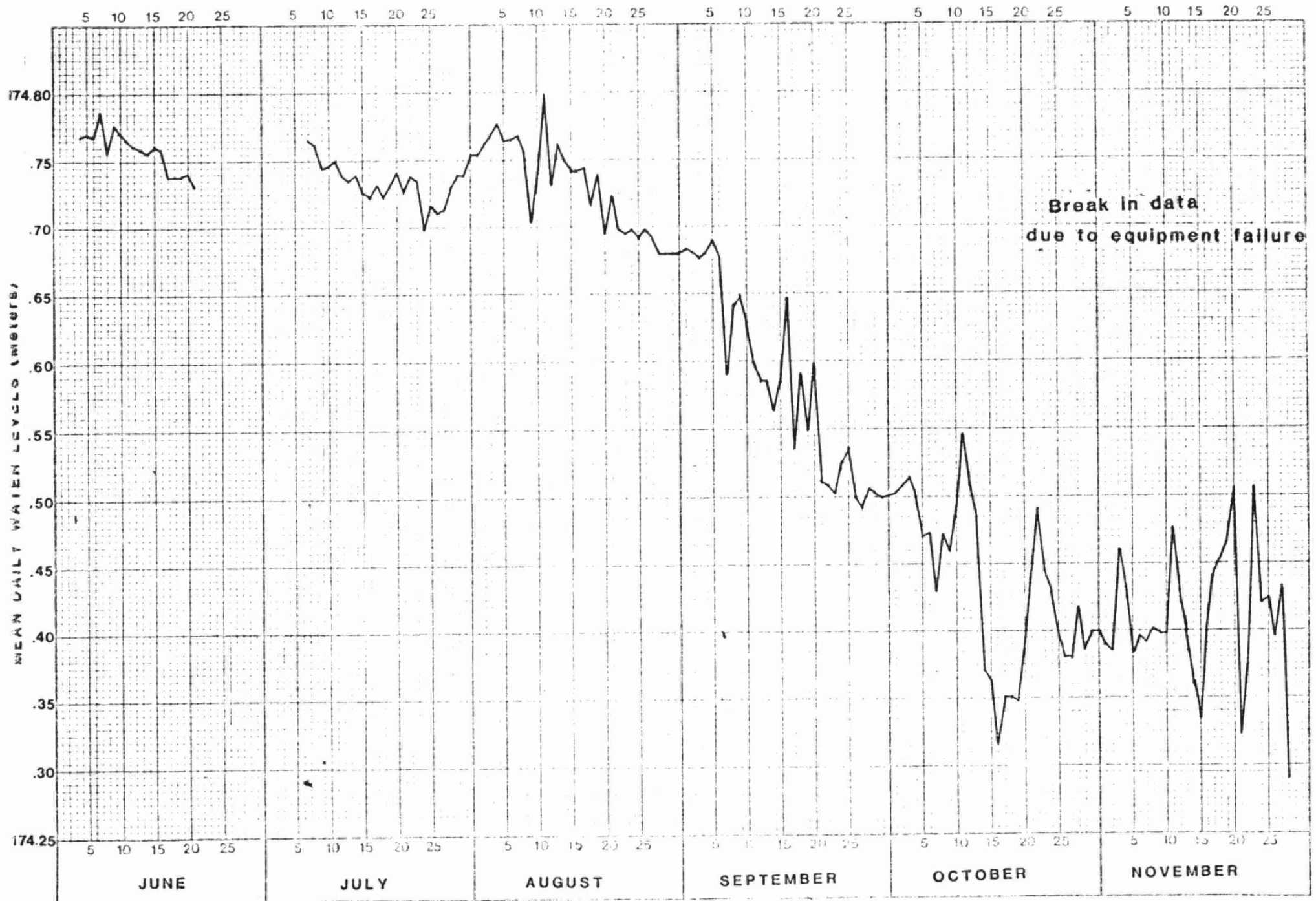


1983 Rondeau Bay Water Levels - MNR Pier - Rondeau Park - 02GF104						
<u>Day</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>
1	--	--	174.753	174.683	174.503	174.390
2	--	--	174.762	174.680	174.509	174.387
3	--	--	174.768	174.677	174.515	174.460
4	174.768	--	174.777	174.680	174.503	174.433
5	174.771	--	174.765	174.689	174.470	174.384
6	174.768	--	174.765	174.677	174.473	174.396
7	174.787	174.765	174.768	174.591	174.430	174.393
8	174.756	174.762	174.756	174.640	174.473	174.402
9	174.777	174.744	174.704	174.649	174.460	174.399
10	174.771	174.747	174.741	174.628	174.494	174.399
11	174.765	174.750	174.799	174.598	174.546	174.476
12	174.762	174.738	174.732	174.585	174.509	174.430
13	174.759	174.735	174.762	174.585	174.485	174.399
14	174.756	174.738	174.750	174.564	174.372	174.360
15	174.762	174.726	174.741	174.585	174.363	174.335
16	174.759	174.723	174.741	174.646	174.317	174.399
17	174.738	174.732	174.744	174.537	174.351	174.442
18	174.738	174.723	174.716	174.591	174.351	174.454
19	174.738	174.732	174.738	174.549	174.348	174.466
20	174.741	174.741	174.695	174.598	174.387	174.506
21	174.732	174.726	174.723	174.512	174.445	174.323
22	--	174.738	174.698	174.509	174.491	174.375
23	--	174.735	174.695	174.503	174.445	174.506
24	--	174.698	174.698	174.527	174.430	174.421
25	--	174.716	174.692	174.537	174.396	174.424
26	--	174.710	174.698	174.500	174.381	174.396
27	--	174.713	174.692	174.494	174.381	174.433
28	--	174.729	174.680	174.506	174.418	174.290
29	--	174.738	174.680	174.503	174.387	--
30	--	174.738	174.680	174.500	174.400	--
31	--	174.753	174.680	--	174.400	--

All elevations shown in meters

# 1983 RONDEAU BAY WATER LEVELS

RONDEAU PARK - 02GF104





### RONDEAU BAY SHORELINE CHANGES

During the winter of 1983-84, a Winter Experience student was given the task of reviewing the shoreline modifications that occurred in Rondeau Bay. Historic air photographs, county and township files along with interviews of long-term residents of the area was used to collect the data. The study area was divided into 6 major units to facilitate an in-depth look at the changes of the shoreline. Each section of the shoreline was examined in detail and a chronological history of modifications (i.e. diking, filling, dredge cuts and breakwalls) outlined. Such alterations were evident on approximately 50% of the shoreline.

The air photographic flights of 1953, 1969 and 1978 were deemed the best choices to document the changes because of the quality and completeness of coverage along with the similar water levels in the bay during those years. The complete report is available at the London Regional Office of the Ministry of the Environment along with mosaics and copies of the air photos. The report concluded that the surface area of Rondeau Bay has increased by approximately 350 hectares since 1953. This increase is due to both man-made and natural influences but the exact contribution of each could not be determined under the scope of the study.

PHYTOPLANKTON DATA

## SAMPLE NUMBER

50

83-592

Date Analysed FEB 24. 84 Date Sampled Apr 27. 83

Enumeration Procedure 42AD11, WCHOLE CHAMBER 1/2 CH

Depth

Mic Factor 42.48

3 ml of unc  
Concentration Factor 3

CYANOPHYCEAE		13	DINOPHYCEAE		13	CHRYSTOPHYCEAE		13
			UNID. DINOPHYCEAE **		211	UNID. CHRYSOMONADS		9
						DINOFLAGELLON		3
						CHRYSOCHROMULINA PARVA		5
						MALLOMONADS		13
			TOTAL →		211			
			CRYPTOPHYCEAE					
			CRYPTOMONADS		82			
			RHODOMONADS		9			
			TOTAL →		91			
			EUGLENOPHYCEAE					
TOTAL →			TOTAL →			TOTAL →		30

[illegible]

SIGNED

Reinhold

# PLANKTON ANALYSIS

FILE NUMBER

5-0

SAMPLE NUMBER

83-593

Municipality KENT CO.

Date Analysed FEB 29.84

Date Sampled Apr 27. 83

Source RONDEAU BAY, L. ERIE

Enumeration Procedure 3 RADII, 1/2 CHAMBER, WHOLE CH.

Station 10 Depth

Mic Factor 56.64

Concentration Factor 3

CYANOPHYCEAE	$\mu^3$	DINOPHYCEAE	$\mu^3$	CHRYSTOPHYCEAE	$\mu^3$
		UNID. DINOPHYCEAE*	323	DINOBYRON	7
				CHRYSOPLYKOS	1
				CHRYSOCHROMULINA PARVA	16
				SPINIFEROMONAS	3
		TOTAL →	323		
		CRYPTOPHYCEAE			
		CRYPTOMONAS	91		
		RHODOMONAS	8		
		TOTAL →	99		
		EUGLENOPHYCEAE			
		EUGLENA	22		
TOTAL →		TOTAL →	22	TOTAL →	27

CHLOROPHYCEAE	$\mu^3$	BACILLARIOPHYCEAE	$\mu^3$	ZOOPLANKTON	No. Organisms per ML
CHLAMYDOMONAS	34	CYCLOTELLA	65		
KOLIELLA	6	SURELLA	10		
TREMBARIA	3	STEPHANODISCUS HANTZSCHII	82		
SCENEDESMUS	54	NITZSCHIA	22		
TETRASTRUM	9	NAVICULA	6		
MONORAPHIDIUM	13	HELOSIRA	150		
CHODATELLA	12	SYNEDRA	3		
OOCYSTIS	4	FRAGILARIA	16	TOTAL →	
PLANKTONEMA	2	STEPHANODISCUS BINDERANUS*	328		
DICTYOSPHAERIUM	6	STEPHANODISCUS ASTRAEA**	155	REMARKS:	
GLOEOTILDA	24				
TOTAL →	167	TOTAL →	837	SIGNED: <u>Heinrich</u>	

OR

TOTAL CUBIC MICRONS PER ML

1475 x 10<sup>3</sup>

# PLANKTON ANALYSIS

- 64 -

FILE NUMBER

5-0

SAMPLE NUMBER

83-703

Municipality KENT CO

Date Analysed FEB 27. 84

Date Sampled May 12. 83

Source RONDEAU BAY, L. ERIE

Enumeration Procedure 2 PADI, WCHOLE CHAMBER\*

Station 7 Depth

Mic Factor 84.96 Concentration Factor 3

CYANOPHYCEAE		$\mu^3$	DINOPHYCEAE		$\mu^3$	CHRYSTOPHYCEAE		$\mu^3$
OSCILLATORIA		33	UNID. DINOPHYCEAE *		32	CHRYSOCHROMULINA PARVA		33
CHROOCOCCLUS		2				UNID. CHRYSOMONADS		120
			TOTAL	→	320			
			CRYPTOPHYCEAE					
			CRYPTOMONAS		146			
			RHODOMONAS		57			
			TOTAL	→	203			
			EUGLENOPHYCEAE					
TOTAL	→	35	TOTAL	→		TOTAL	→	45

CHLOROPHYCEAE		$\mu^3$	BACILLARIOPHYCEAE		$\mu^3$	ZOOPLANKTON	No. Organisms per ML
TETRASTRUM		40	CYCLOTELLA		80		
CUCURBITELLA		37	NITZSCHIA		9		
GLOEOTILIA		46	SYNEDRA		8		
SCENEDESMUS		56	STEPHANODISCUS HANTZSCHII		140		
KOLLELLA		20	STEPHANODISCUS ASTRAEA *		90		
MONORAPHIDIUM		30					
CHLAMYDOMONAS		62					
PLANKTONEMA		16				TOTAL	→
GUADRIGULA		2					
						REMARKS:	
TOTAL	→	309	TOTAL	→	337		

OR TOTAL CUBIC MICRONS PER ML

961  $\times 10^3$

SIGNED: Heinrich

## PLANKTON ANALYSIS

- 65 -

FILE NUMBER

5-0

SAMPLE NUMBER

83-704

Municipality Rent Co.Date Analysed May 22.84 Date Sampled May 12.83Source Rondeau Bay - Lake ErieEnumeration Procedure 4R, \*1R, \*\*4R, \*\*\*12RStation 10

Depth \_\_\_\_\_

Mic Factor 28.4420Concentration Factor 2x1=2

CYANOPHYCEAE		$\mu 3$	DINOPHYCEAE		$\mu 3$	CHRYSTOPHYCEAE		$\mu 3$
Chroococcus		14	Peridinium		70	Dinobryon		14
Lyngbya		22				Chrysoschromulina parva		12
						Unidentified Chrysophyceae		13
TOTAL →			70					
			CRYPTOPHYCEAE		$\mu 3$			
			Rhodomonas	*	423			
			Cryptomonas	***	485			
TOTAL →			908					
			EUGLENOPHYCEAE		$\mu 3$			
			Euglena		58			
			Phacus	p				
TOTAL →			36			TOTAL →		
			58			39		

CHLOROPHYCEAE		$\mu 3$	BACILLARIOPHYCEAE		$\mu 3$	ZOOPLANKTON	No. Organisms per ML
Oocystis		13	Nitzschia		16	Ciliates	99
Chodatella		9	Cyclotella	***	75		
Gloetila		155	Asterionella	p			
Scenedesmus		54	Stephanodiscus binderana	p			
Monoraphidium	**	74					
Chlamydomonas		48					
Quadrigula		16					
Tetrastrum		36				TOTAL →	99
Dictyosphaerium		11				REMARKS:	
Ulothrix		14					
Planktonema		7					
Treubaria		5					
Dougeotia	p						
Pediastrum	p						
TOTAL →			442			SIGNED <u>AG Standke</u>	
			TOTAL →				

OR

TOTAL CUBIC MICRONS PER ML

1644 x 10<sup>3</sup>

MOE 0899 6/82

## PLANKTON ANALYSIS

FILE NUMBER

5-0

SAMPLE NUMBER

83-754

Municipality: KENT CO

Date Analysed Feb 28, 84 Date Sampled May 26, 83

Source CONDELL BAY, L. ERIE

Enumeration Procedure 3 RADII, WHOLE CHAMBER

Station 10

Depth

Mic Factor 56.64

3 ml of conc  
Concentration Factor 3

CYANOPHYCEAE	$\mu^3$	DINOPHYCEAE	$\mu^3$	CHRYSTOPHYCEAE	$\mu^3$
				CHRYSCHEOMULINA PARVA	18
OSILLATORIA	20			DINOBYON	9
				SPINIFEROMONAS	1
		TOTAL			
		CRYPTOPHYCEAE			
		CRYPTOMONAS	282		
		RHODOMONAS	13		
		TOTAL	295		
		EUGLENOPHYCEAE			
		EUGLENA	49		
TOTAL	20	TOTAL	49	TOTAL	28

CHLOROPHYCEAE	$\mu^3$	BACILLARIOPHYCEAE	$\mu^3$	ZOOPLANKTON	No. Organisms per ML
SCENEDESMUS	37	SYNEDRA	15		
KOLELLA	6	CYCLOTILLA	53		
TETRASTRUM	9	NITZSCHIA	15		
SOCCYSTIS	41	STEPHANODISCUS HANTZSCHII	110		
PLANATOMEMA	18	RHIZOSOLENIA	23		
DICTYOSPHYTERIUM	26	STEPHANODISCUS BINDEFANUS*	38		
CHODATELLA	3	STEPHANODISCUS ABTRAEA*	63		
MONORAPHIDIUM	7			TOTAL	
CHLAMYDOMONAS	7				
MICRACETINIUM	1				
CELASTRUM	3				
CLOSTERIUM	36				
ELOEOTILA	5				
TOTAL	199	TOTAL	317		

REMARKS:

SIGNED: [Signature]

OR

TOTAL CUBIC MICRONS PER ML

908 x 10<sup>3</sup>

## PLANKTON ANALYSIS

- 67 -  
FILE NUMBER

5-0

SAMPLE NUMBER

83-755

Municipality Kent CoDate Analysed May 1.84Date Sampled May 26.83Source RONDEAU BAY, L. ERIEEnumeration Procedure 4 RADIIStation 7 Depth \_\_\_\_\_Mic Factor 42.483 ml of l  
Concentration Factor 3

CYANOPHYCEAE		$10^3$	DINOPHYCEAE		$10^3$	CHRYSTOPHYCEAE		$10^3$
OSCILLATORIA		41	UNID. DINOPHYCEAE		134	UNID. CHRYSOMONADS		17
			TOTAL →		134			
			CRYPTOPHYCEAE					
			CRYPTOMONAS		195			
			RHODOMONAS		8			
			TOTAL →		203			
			EUGLENOPHYCEAE					
			EUGLENA		45			
			PHACUS		10			
TOTAL →		41	TOTAL →		55	TOTAL →		17

CHLOROPHYCEAE		$10^3$	BACILLARIOPHYCEAE		3	ZOOPLANKTON	No. Organisms per ML
DICTYOSPHERIUM		24	CYCLOTELLA		38	PROTOZOANS	71
SCENEDESMUS		16	NITZSCHIA		4		
TREUBARIA		1	SYNEDRA		8		
GLOEOTILA		41	SURIPELLA		7		
SCENEDESMUS		45	COCCONEIS		10		
COELASTRUM		21	STEPHANODISCUS HANTZSCHII		24		
CHLAMYDOMONAS		24	RHIZOSOLENITA		9		
TETRASTRUM		4	FRAGILARIA		43	TOTAL →	71
MONORAPHIDIUM		4					
CHODATELLA		2					
STAUROSTRUM		8					
KOLLELLA		2					
OOCYSTIS		26					
TOTAL →		218	TOTAL →		149		

REMARKS:

SIGNED: Reinhold

OR

TOTAL CUBIC MICRONS PER ML

817 × 10<sup>3</sup>

MOE 0899 6/82



# PLANKTON ANALYSIS

- 68 -  
FILE NUMBER

5-0

SAMPLE NUMBER

83-828

Municipality KENT CO

Date Analysed Mar 2.84

Date Sampled June 2.83

Source PONDEAU BAY, L. ERIE

Enumeration Procedure 3 RADII

Station 7 Depth

Mic Factor 56.64

Concentration Factor 3 ml d 1

CYANOPHYCEAE		$\mu^3$	DINOPHYCEAE		$\mu^3$	CHRYSTOPHYCEAE		$\mu^3$
OSCILLATORIA		135	UNID. DINOPHYCEAE		86	UNID. CHRYSOMONADS		19
COELOSPHAERIUM		2				CHRYSOCHROMULINA PARVA		46
APHANIZOMENON		3				DINOBYRON		11
			TOTAL	→	86			
			CRYPTOPHYCEAE					
			CRYPTOMONAS		476			
			RHODOMONAS		31			
			KATABLEPHARIS		33			
			TOTAL	→	540			
			EUGLENOPHYCEAE					
			EUGLENA		80			
TOTAL	→	140	TOTAL	→	80	TOTAL	→	76

CHLOROPHYCEAE		$\mu^3$	BACILLARIOPHYCEAE		$\mu^3$	ZOOPLANKTON	No. Organisms per ML
CHODATELLA		4	CYCLOTELLA		99	PROTOZOANS	57
KOLIELLA		21	STEPHANODISCUS Hantzschii		156		
MONORAPHIDIUM		20	NITZSCHIA		26		
DICTYOSPHAERIUM		37	FRAGILARIA		4		
TETRASTRUM		15	DIATOMA		10		
GLOEOTILA		71	NAVICULA		7		
SCENEDESMUS		123	STEPHANODISCUS BINDER		31		
MICRACTINIUM		1				TOTAL	→ 57
CEUCIGENIA		1					
COELASTRUM		25				REMARKS:	
CHLAMYDOMONAS		42					
COCCYSTIS		52					
COSMARUM		10					
ACTINASTRUM		2					
TOTAL	→	424	TOTAL	→	333	SIGNED: <u>Heinrich</u>	
OR							
TOTAL CUBIC MICRONS PER ML					1679 $\times 10^3$		

# PLANKTON ANALYSIS

FILE NUMBER

5-0

SAMPLE NUMBER

83-829

Municipality KENT CO

Date Analysed Mar 5-84

Date Sampled June 2-83

Source RONDEAU BAY, L.ERIE

Enumeration Procedure 2 RADII

Station 10 Depth

Mic Factor 84.96

Concentration Factor 3

CYANOPHYCEAE			DINOPHYCEAE			CHRYSTOPHYCEAE		
OSCILLATORIA		154	UNID. DINOPHYCEAE		144	UNID. CHRYSOMONADS		33
						CHRYSOCHROMULINA PARVA		43
						DINOBRYON		21
						MAULOMONAS		4
			TOTAL		144			
			CRYPTOPHYCEAE					
			CRYPTOMONAS		494			
			KATABLEPHARUS		20			
			RHODOMONAS		13			
			TOTAL		527			
			EUGLENOPHYCEAE					
			EUGLENA		104			
			PHACUS		23			
TOTAL		154	TOTAL		127	TOTAL		101

CHLOROPHYCEAE			BACILLARIOPHYCEAE			ZOOPLANKTON	No. Organisms per ML
CHODATELLA		12	CYCLOTELLA		77	PROTOZOANS	198
SCENEDESNIUS		244	STEPHANODISCUS Hantzschii		146		
GLOEOTILA		103	NITZSCHIA		21		
DICTYOSPHAERIUM		99	SYNEDRA		2		
MONORAPHIDIUM		13	SKELETONEMA		19		
ROLIELLA		23					
TETRASTRUM		13					
CHLAMYDOMONAS		73				TOTAL	198
COCCYSTIS		28					
KIRCHNERIELLA		5					
ACTINASTRUM		10					
PEDIASTRUM		68					
TETRAEDRON		5					
TOTAL		696	TOTAL		265		

REMARKS:

SIGNED: Heinrich

OR

TOTAL CUBIC MICRONS PER ML

2014 x 10<sup>3</sup>

## PLANKTON ANALYSIS

FILE NUMBER - 70 -

SAMPLE NUMBER

5-0

83-926

Municipality KENT CODate Analysed Mar 6.84Date Sampled June 9.83Source RONDEAU BAY, L. ERIEEnumeration Procedure 2 RADIIStation 7 Depth \_\_\_\_\_Mic Factor 2 RADII Concentration Factor 2

CYANOPHYCEAE			DINOPHYCEAE			CHRYSTOPHYCEAE		
<i>OSCILLATORIA</i>		$\mu^3$ 193	<i>UNID. DINOPHYCEAE</i>		$\mu^3$ 208	<i>UNID. CHRYSOMONAS</i>		$\mu^3$ 52
						<i>CHRYSOCHROMULINA PARVA</i>		49
						<i>SPINIFEROMONAS</i>		10
						<i>DINOBYRON</i>		39
			TOTAL →		208			
			CRYPTOPHYCEAE					
			<i>CRYPTOMONAS</i>		257			
			<i>RHODOMONAS</i>		8			
			<i>KATABLEPHARIS</i>		11			
			TOTAL →		276			
			EUGLENOPHYCEAE					
			<i>EUGLENA</i>		113			
TOTAL →		193	TOTAL →		113	TOTAL →		150

CHLOROPHYCEAE			BACILLARIOPHYCEAE			ZOOPLANKTON	No. Organisms per ML
<i>GLOEOTILA</i>		$\mu^3$ 43	<i>CYCLOTILLA</i>		$\mu^3$ 87	<i>PROTOZOANS</i>	227
<i>COELASTRUM</i>		59	<i>STEPHANODISCUS Hantzschii</i>		254		
<i>KOLLELLA</i>		29	<i>SYNEDRA</i>		32		
<i>MONORAPHIDIUM</i>		12	<i>NISSCHIA</i>		18		
<i>MICRACTINIUM</i>		11	<i>SKELETONEMA</i>		7		
<i>SCENEDESMUS</i>		65					
<i>CHODATELLA</i>		13					
<i>CHLAMYDOMONAS</i>		167				TOTAL →	227
<i>PEDIASTRUM</i>		87					
<i>DICTYOSPHAERIUM</i>		46					
<i>ACTINASTRUM</i>		7					
<i>GLOEOCYSTIS</i>		51					
<i>TETRAEDRON</i>		8					
<i>SCHROEDERIA</i>		2					
<i>TETRASTRUM</i>		2					
<i>OOCYSTIS</i>		2					
<i>CLOSTERIUM</i>		8					
<i>QUADRIGULA</i>		3					
TOTAL →		614	TOTAL →		398		

REMARKS:

SIGNED: Reinhold

OR

TOTAL CUBIC MICRONS PER ML

1705  $\times 10^3$

## PLANKTON ANALYSIS

FILE NUMBER

- 71 -

SAMPLE NUMBER

5-0

83-927

Municipality KENT CODate Analysed Mar 8. 84 Date Sampled Jun 9. 83Source RONDEAU BAY, L. ERIEEnumeration Procedure 2 RADIIStation 10 Depth \_\_\_\_\_Mic Factor 84.96 Concentration Factor 3

CYANOPHYCEAE		$\mu^3$	DINOPHYCEAE		$\mu^3$	CHRYSTOPHYCEAE		$\mu^3$
OSILLATORIA		141	UNID. DINOPHYCEAE		95	UNID. CHRYSOMONADS		48
						DINOBRYON		49
						CHRYSOCHROMULINA PARVA		21
			TOTAL	→	95			
			CRYPTOPHYCEAE					
			CRYPTOMONAS		197			
			RHODOMONAS		10			
			KATABLEPHARIS		29			
			TOTAL	→	236			
			EUGLENOPHYCEAE					
			EUGLENA		52			
			LEPOTINCLUS		51			
TOTAL	→	141	TOTAL	→	103	TOTAL	→	118

CHLOROPHYCEAE		$\mu^3$	BACILLARIOPHYCEAE		$\mu^3$	ZOOPLANKTON	No. Organisms per ML
GLOEOTILA		43	CYCLOTELLA		87	PROTOZOANS	227
COELASTRUM		59	STEPHANODISCUS Hantzschii		254		
KOLIELLA		29	SYNEDRA		32		
MONORAPHIDIUM		12	NISSCHIA		18		
MICRACTINIUM		11	SKELETONEMA		7		
SCENEDESMUS		65					
CHODATELLA		13					
CHLAMYDOMONAS		167				TOTAL	→ 227
PEDIASTRUM		87					
DICYOSPHAERIUM		46					
ACTINASTRUM		7					
GLOEOCYSTIS		51					
TETRAEDRON		8					
SCHROEDERIA		2					
TETRASTRUM		2					
OOCYSTIS		8					
CLOSTERIUM		3					
QUADRIGULA							
TOTAL	→	614	TOTAL	→	338		

REMARKS:

SIGNED:

Reinthal

OR

TOTAL CUBIC MICRONS PER ML

1705  $\times 10^3$ 

MOE 0899 6/82

## PLANKTON ANALYSIS

FILE NUMBER

- 72 -

SAMPLE NUMBER

5-0

83-1015

Municipality KENT CoDate Analysed Mar 9.84Date Sampled June 15.83Source RONDEAU BAY, LERIEEnumeration Procedure 2 RADIIStation 7 Depth \_\_\_\_\_Mic Factor 84.96Concentration Factor 3

CYANOPHYCEAE		$\mu^3$	DINOPHYCEAE		$\mu^3$	CHRYSTOPHYCEAE		$\mu^3$
OSCILLATORIA		15				UNID. CHLOROMONADS		23
						KEPHYRION		1
						DINOBYRON		12
			TOTAL	→				
			CRYPTOPHYCEAE					
			CRYPTOMONAS		25			
			RHODOMONAS		1			
			TOTAL	→	26			
			EUGLENOPHYCEAE					
TOTAL	→	115	TOTAL	→		TOTAL	→	36

CHLOROPHYCEAE		$\mu^3$	BACILLARIOPHYCEAE		$\mu^3$	ZOOPLANKTON	No. Organisms per ML
SCENEDESMUS		80	CYCLOTILLA		32	PROTOZOANS	113
CHODATELLA		4	NISSCHIA		37		
MICRACINIUM		16	SYNEDRA		2		
DICTYOSPHAERIUM		5	STEPHANODISCUS Hantzschii		66		
KOLLELLA		59					
MONORAPHIDIUM		35					
CHLAMYDOMONAS		18					
TETRAEDRON		8				TOTAL	→ 113
ACTINASTRUM		10				REMARKS:	
TETRASTRUM		8					
GLOEOCYSTIS		8					
COELASTRUM		15					
GLOEOTILA		7					
						SIGNED: <u>Heinrich</u>	
TOTAL	→	273	TOTAL	→	137	OR TOTAL CUBIC MICRONS PER ML	
					587 $\times 10^3$		

SAMPLE NUMBER

83-1016

Date Sampled June 15.83

Enumeration Procedure 2 RADII

Depth

Mic Factor 84.96

Concentration Factor 3

CHLOROPHYCEAE		BACILLARIOPHYCEAE		ZOOPLANKTON	No. Organisms per ML
KOLIELLA	72	NITZSCHIA	106	PROTOZOANS	85
SCENEDESMUS	117	CYCLOTELLA	42		
DICTYOSPHAERIUM	47	STEPHANODISCUS Hantzschii	76		
ACTINASTRUM	3	SYNEDRA	20		
OOCYSTIS	41				
MONORAPHIDIUM	65				
CHODATELLA	7				
PEDIASTRUM	58			TOTAL	85
TETRAEDRON	23				
GLOEOCYSTIS	8				
GLOEOTILA	11				
CHLAMYDOMONAS	17				
MICRACTINIUM	8				
TREUBARIA	3				
COELASTRUM	18				
QUADRIGULA	2				
TETRASTRUM	4				
TOTAL	504	TOTAL	244	REMARKS:	

$$991 \times 10^3$$

MOE 0899 6/82

# PLANKTON ANALYSIS

- 74 -  
FILE NUMBER

SAMPLE NUMBER

5-0

83-1246

Municipality KENT CO

Date Analysed Mar 13.84

Date Sampled June 21.83

Source RONDEAU BAY

Enumeration Procedure 3 RADII

Station 10

Depth

Mic Factor 56.64

Concentration Factor 3 ml of 1

CYANOPHYCEAE		$\mu^3$	DINOPHYCEAE		$\mu^3$	CHRYSTOPHYCEAE		$\mu^3$
OSCILLATORIA		76				UNID. CHRYSOMONADS		12
COELOSPHAERIUM		12				DINOBRION		23
						CHRYSOCHROMULINA PARVA		p-
			TOTAL	→				
			CRYPTOPHYCEAE					
			CRYPTOMONAS		75			
			TOTAL	→	75			
			EUGLENOPHYCEAE					
TOTAL	→	88	TOTAL	→		TOTAL	→	35

CHLOROPHYCEAE		$\mu^3$	BACILLARIOPHYCEAE		$\mu^3$	ZOOPLANKTON	No. Organisms per ML
KOLLELLA		45	NITZSCHIA		32	PROTOZOANS	76
MONORAPHIDIUM		30	SYNEDRA		32		
GLOEOTILA		7	STEPHANODISCUS Hantzschii		25		
SCENEDESMUS		50	STEPHANODISCUS BINDERAN.		18		
COELASTRUM		5	RHIZOSOLENIA		5		
TETRASTRUM		10					
DICTYOSPHAERIUM		4					
STAUROSTRUM		9				TOTAL	→ 76
CHODATELLA		1					
GUADRIGULA		1				REMARKS:	
OOCYSTIS		30					
CHLORELLA		3					
TETRAEDRON		17					
COSMARUM		5					
TOTAL	→	217	TOTAL	→	112		

OR TOTAL CUBIC MICRONS PER ML

527  $\times 10^3$

SIGNED:

Heinrich



## PLANKTON ANALYSIS

FILE NUMBER

5-0

SAMPLE NUMBER

83-1247

Municipality KENT CODate Analysed MAY 14.84 Date Sampled June 21.83Source RONDEAU BAY, L. ERIEEnumeration Procedure 2 RADIIStation 7 Depth \_\_\_\_\_Mic Factor 56.64 Concentration Factor 3

CYANOPHYCEAE		$\mu^3$	DINOPHYCEAE		$\mu^3$	CHRYSTOPHYCEAE		$\mu^3$
OSCILLATORIA		97	UNID. DINOPHYCEAE		58	UNID. CHRYSOMONADS		28
LYNGBYA		33				CHRYSOPHOMULINA PARVA		4
COELOSPHAERIUM		4				DINOBYRON		108
MERISMOPEDIA		4				KEPHYRION		2
			TOTAL →		58			
			CRYPTOPHYCEAE					
			CRYPTOMONAS		110			
			RHODOMONAS		1			
			KATABLEPHARIS		2			
			TOTAL →		113			
			EUGLENOPHYCEAE					
			EUGLENA		95			
TOTAL →		138	TOTAL →		95	TOTAL →		142

CHLOROPHYCEAE		$\mu^3$	BACILLARIOPHYCEAE		$\mu^3$	ZOOPLANKTON	No. Organisms per ML
KOLELLA		57	NITZSCHIA		145	PROTOZOANS	132
MONORAPHIDIUM		35	SYNEDRA		33		
TETRASTRUM		15	ACHNANTHES		1		
SCENEDESMUS		9	CYCLOTELLA		9		
GLOEOTILA		5	STEPHANODISCUS Hantzschii		30		
ACTINASTRUM		2	STEPHANODISCUS BINDERANUS		14		
MICRACTINIUM		4					
CHODATELLA		2				TOTAL →	132
DICTYOSPHAERIUM		31					
COELASTRUM		36				REMARKS:	
OOCYSTIS		19					
CHLAMYDOMONAS		9					
TETRAEDRON		3					
CRUCIGENIA		4					
GLOEOCYSTIS		12					
TOTAL →		243	TOTAL →		232	SIGNED: <u>Reintzel</u>	
OR							
TOTAL CUBIC MICRONS PER ML					1021 $\times 10^3$		



5-0

- 76 -

83-1295

Municipality KENT CO

Date Analysed

Nov 15.84

Date Sampled

June 30.83Source RONDEAU BAY, L.ERIE

Enumeration Procedure

3 RADII, WHOLE CHAMBER\*Station 10

Depth

Mic Factor

56.64

Concentration Factor

3

CYANOPHYCEAE		$\mu^3$	DINOPHYCEAE		$\mu^3$	CHRYSTOPHYCEAE		$\mu^3$
LYNGBYA		80	UNID.DINOPHYCEAE		46	UNID.CHRYSOMONADS		16
OSCIATORIA		55				BITRICHIA		1
MERISMOPEDIA		4				DINOBYRON		34
COELOSIPHARIUM		2						
CHROOCOCCUS		2	TOTAL →		46			
			CRYPTOPHYCEAE					
			CRYPTOMONAS		42			
			RHODOMONAS		3			
			KATABLEPHARIS		1			
			TOTAL →		46			
			EUGLENOPHYCEAE					
			EUGLENA		27			
			PHACUS		14			
TOTAL →		143	TOTAL →		41	TOTAL →		51

CHLOROPHYCEAE		$\mu^3$	BACILLARIOPHYCEAE		$\mu^3$	ZOOPLANKTON	No. Organisms per ML
DICTYOSIPHARIUM		15	STEPHANODISKUS ASTRAEA		226	PROTOZOANS	132
SCENEDESMUS		75	" BINDERANUS		21		
MICRACTINIUM		6	" HANTSCHII		27		
CRUCIGENIA		17	NITZSCHIA		67		
OOCYSTIS		23	MELOSIRA		33		
CHODATELLA		4	CYCLOTELLA		4		
CHLAMYDOMONAS		27	ACHNANTHES		6		
COELASTRUM		95	RHIZOSOLENIA		14	TOTAL →	132
KIRCHNERIELLA		5	SYNEDRA		15		
GLOEOCYSTIS		26					
TETRASTRUM		7					
COSMARIUM		6					
TETRAEDRON		2					
SCHROEDERIA		2					
GLOEOTILA		1					
TREMBARIA		7					
KOLIELLA		12					
MONORAPHIDIUM		23					
TOTAL →		353	TOTAL →		413		

REMARKS:

SIGNED:

Heintzel

OR

TOTAL CUBIC MICRONS PER ML

1093x10<sup>3</sup>

MOE 0899 6/82

## PLANKTON ANALYSIS

FILE NUMBER

- 77 -

SAMPLE NUMBER

5-0

83-1296

Municipality KENT CoDate Analysed Mar 19.84Date Sampled June 30.83Source RONDEAU BAY, L. ERIEEnumeration Procedure 37AD11, 1R\*Station V DepthMic Factor 56.64Concentration Factor 3 ml of conc

CYANOPHYCEAE	$\mu^3$	DINOPHYCEAE	$\mu^3$	CHRYSTOPHYCEAE	$\mu^3$
LYNGBYA	76	UNID. DINOPHYCEAE	163	UNID. CHRYSOMONADS*	26
MICROCYSTIS	1			CHRYSOCHROMULINA PARVA	12
OSCILLATORIA	37			MALLONAS CYSTS	13
MERISMOPEDIA	2			KEPHYRION	2
CHROOCOCCUS	2	TOTAL →	163	CHRYSOLYKOS	2
		CRYPTOPHYCEAE		SPINIFEROMONAS	1
		CRYPTOMONAS	53	TOTAL	56
		RHODOMONAS	21	XANTHOPHYCEAE	
		TOTAL →	74	OPHIOCYTIUM	3
		EUGLENOPHYCEAE			
		PHACUS	10		
		EUGLENA	30		
		STROMBOMONAS	36		
TOTAL →	118	TOTAL →	76	TOTAL →	3

CHLOROPHYCEAE	$\mu^3$	BACILLARIOPHYCEAE	$\mu^3$	ZOOPLANKTON	No. Organisms per ML
KOLLELLA	11	NITZSCHIA	136	PROTOZOANS	283
SCENEDESMUS	157	HELOSIRA	147	ROTIFERS	189
MICRACTINIUM	3	ACHNANTHES	3		
DICTYOSPHAERIUM	15	STEPHANODISCUS BINDER.	70		
COELASTRUM	47	GYNEDRA	11		
TETRASTRUM	34	CYCLOTELLA	12		
GLOEOCYSTIS	54	FRAGILARIA	2		
OOCYSTIS	40	SKELETONEMA	5	TOTAL →	472
TETRAEDRON	7	STEPHANODISCUS ASTRAEA	59		
ACTINASTRUM	8	CYNATOPLEURA	44		
MONORAPHIDIUM	8				
PEDIASTRUM	71				
CHODATELLA	1				
CRUCIGENIA	2				
KIRCHNERIELLA	11				
CHLAMYDOMONAS	26				
CLOSTERIUM					
TOTAL →	496	TOTAL →	489		

REMARKS:

SIGNED:

Reinher

OR

TOTAL CUBIC MICRONS PER ML

1475  $\times 10^3$ 

MOE 0899 6/82

5-0

- 78 -

83-1507

Municipality KENT CODate Analysed Mar 19.84Date Sampled July 7.83Source RONDEAU BAY, L. ERIEEnumeration Procedure 2 RADII, 20 radii #Station 10

Depth

Mic Factor 84.96Concentration Factor 2

CYANOPHYCEAE		$\mu^3$	DINOPHYCEAE		$\mu^3$	CHRYSTOPHYCEAE		$\mu^3$
CHROOCOCCUS		8				UNID. CHRYSONOMADS		31
MICROCYSTIS		5				CHRYSOCHROMULINA PARVA		32
OSCILLATORIA		31				MALLONAS		50
APHANIZOMENON		5						
APHANOTHECE		10	TOTAL	→				
MERISMOPEDIA		10	CRYPTOPHYCEAE					
LYNGBYA		106	CRYPTOMONAS		787			
			RHODOMONAS		46			
			KATABLEPHARIS		4			
			TOTAL	→	837			
			EUGLENOPHYCEAE					
			TRACHELOMONAS		30			
			EUGLENA		138			
			PHACUS		37			
TOTAL	→	175	TOTAL	→	205	TOTAL	→	113

CHLOROPHYCEAE		$\mu^3$	BACILLARIOPHYCEAE		$\mu^3$	ZOOPLANKTON	No. Organisms per ML
SCENEDESMUS		134	NITZSCHIA		138	PROTOZOANS	255
DICTYOSPHAERIUM		111	FRAGILARIA		15		
CHODATELLA		11	SYNEDRA		20		
DOCYSTIS		100	SKELETONEMA		300		
CHLAMYDOMONAS		27	CYCLOTELLA		55		
PEDIASTRUM		210	STEPHANODISCUS HANTSCHII		196		
KOLLELLA		7	STEPHANODISCUS BINDERAN		80		
CRUCIGENIA		13	STEPHANODISCUS ASTRAEA *		321	TOTAL	→ 255
TETRASTRUM		5	COSCINODISCUS		115		
STAUROSTRUM		81				REMARKS:	
SCHROEDERIA		10					
MONORAPHIDIUM		11					
KIRCKNERIELLA		19					
MICRACTINIUM		4					
COELASTRUM		122					
GLOEOCYSTIS		38					
TOTAL	→	903	TOTAL	→	1240	SIGNED: <u>Heinrich</u>	

OR

TOTAL CUBIC MICRONS PER ML

→ 3473  $\times 10^3$ 

MOE 0899 6/82

5-0

- 79 -

83-1508

Municipality KENT CODate Analysed Nov 22.84Date Sampled July 14.83Source RONDEAU BAY, L. ERIEEnumeration Procedure 37AD11Station 7 DepthMic Factor 56.64Concentration Factor 2

CYANOPHYCEAE		<u>13</u>	DINOPHYCEAE		<u>13</u>	CHRYSTOPHYCEAE		<u>13</u>
LYNGBYA		<u>183</u>	UNID. DINOPHYCEAE		<u>68</u>	UNID. CHRYSOMONADS		<u>28</u>
OSILLATORIA		<u>40</u>				KEPHYRION		<u>1</u>
APHANOTHECE		<u>4</u>				MALLONONAS		<u>20</u>
MERISMOPEDIA		<u>4</u>						
COELOSPHAERIUM		<u>2</u>	TOTAL	→	<u>68</u>			
MICROCYSTIS		<u>34</u>	CRYPTOPHYCEAE					
			CRYPTONONAS		<u>522</u>			
			RHODONONAS		<u>26</u>			
			TOTAL	→	<u>548</u>			
			EUGLENOPHYCEAE					
			LEPOTINCLIS		<u>91</u>			
			TRACHELONONAS		<u>75</u>			
			EUGLENA		<u>37</u>			
			PHACUS		<u>17</u>			
			STROMBONONAS		<u>51</u>			
TOTAL	→	<u>277</u>	TOTAL	→	<u>272</u>	TOTAL	→	<u>49</u>

CHLOROPHYCEAE		<u>13</u>	BACILLARIOPHYCEAE		<u>13</u>	ZOOPLANKTON	No. Organisms per ML
PEDIASTRUM		<u>126</u>	SYNEDRA		<u>31</u>	PROTOZOANS	<u>227</u>
CHODATELLA		<u>62</u>	NITZSCHIA		<u>94</u>		
KOLELLA		<u>5</u>	ACHNANTHES		<u>19</u>		
MICRACTINIUM		<u>8</u>	FRAGILARIA		<u>2</u>		
TETRASTRUM		<u>10</u>	SKELETONEMA		<u>53</u>		
SCENEDESMUS		<u>156</u>	CYCLOTELLA		<u>95</u>		
ACTINASTRUM		<u>3</u>	STEPHANODISCUS HANTZSCHII		<u>113</u>		
DICTYOSPHAERIUM		<u>41</u>	STEPHANODISCUS BINDERAN		<u>22</u>	TOTAL	→ <u>227</u>
OOCYSTIS		<u>63</u>	STEPHANODISCUS ASTRAEA		<u>65</u>		
CRUCIGENIA		<u>17</u>	COSCINODISCUS		<u>154</u>	REMARKS:	
CHLAMYDOMONAS		<u>12</u>					
MONORAPHIDIUM		<u>5</u>					
GLOEOCYSTIS		<u>117</u>					
KIRCHNERIELLA		<u>2</u>					
COELASTRUM		<u>20</u>					
COSMARIUM		<u>11</u>					
TOTAL	→	<u>658</u>	TOTAL	→	<u>678</u>	SIGNED: <u>Heinrich</u>	

OR

TOTAL CUBIC MICRONS PER ML

→ 2550 × 10<sup>3</sup>

MOE 0899 6/82

## PLANKTON ANALYSIS

FILE NUMBER

5-0

SAMPLE NUMBER

83-1509

Municipality KENT CODate Analysed Mar 20.84 Date Sampled July 14.83Source RONDEAU BAY, L.ERIEEnumeration Procedure 2 RADIIStation 10

Depth

Mic Factor 84.96Concentration Factor 2

CYANOPHYCEAE		$\mu^3$	DINOPHYCEAE		$\mu^3$	CHRYSTOPHYCEAE		$\mu^3$
LYNGBYA		66				UNID. CHLOROMONADS		30
MICROCYSTIS		56				BITRICHIA		1
OSCILLATORIA		47				DINOBYRON		96
CHROOCOCCUS		10				MALLOMONAS		40
APHANOTHECE		13	TOTAL	→				
MERISMOPEDIA		5	CRYPTOPHYCEAE					
COELOSOPHAERIUM		21	CRYPTOMONAS		366			
			RHODOMONAS		11			
			KATABLEPHARIS		3			
			TOTAL	→	380			
			EUGLENOPHYCEAE					
			EUGLENA		165			
TOTAL	→	218	TOTAL	→	165	TOTAL	→	167

CHLOROPHYCEAE		$\mu^3$	BACILLARIOPHYCEAE		$\mu^3$	ZOOPLANKTON	No. Organisms per ML
QUADRIGULA		3	SYNEDRA		76	PROTOZOANS	212
MICRACTINIUM		24	NITZSCHIA		76		
CHLOROGONIUM		2	ACHNANTHES		85		
COELASTRUM		106	CYCLotella		25		
SCHROEDERIA		5	STEPHANODISCUS BINDER.		58		
PEDIASTRUM		134	SURIELLA		107		
TETRAEDRON		26	RHIZOLENIA		6		
KOLLETTA		11	STEPHANODISCUS ASTRAEA		34	TOTAL	→ 212
DICTYOSOPHAERIUM		206	STEPHANODISCUS Hantzschii		64		
CLOSTERIUM		25				REMARKS:	
CRUCIGENIA		20					
CHLAMYDOMONAS		133					
OOCYSTIS		92					
STAUROSTRUM		60					
ACTINASTRUM		78					
KIRCHNERIELLA		3					
SCENEDESMUS		38					
TETRASTRUM		6					
CHODATELLA		13					
GLOEOCYSTIS		24					
TOTAL	→	1009	TOTAL	→	531	SIGNED: <u>Heintzel</u>	
OR							
TOTAL CUBIC MICRONS PER ML					2470x10 <sup>3</sup>		

# PLANKTON ANALYSIS

- 81 -  
FILE NUMBER

5-0

SAMPLE NUMBER

83- 1510

Municipality KENT CO

Date Analysed Mar 21. 84

Date Sampled July 14. 83

Source RONDEAU BAY, LERIE

Enumeration Procedure 2 RADII

Station 7 Depth

Mic Factor 84.96

Concentration Factor 2

CYANOPHYCEAE		$\mu^3$	DINOPHYCEAE		$\mu^3$	CHRYSTOPHYCEAE		$\mu^3$
OSCILLATORIA		148	UNID. DINOPHYCEAE		109	UNID. CHRYSOMONAS		45
CHROOCOCCUS		6				MALLOMONAS		321
MERISMOPEDIA		36				CHRYSOCHROMULINA PARVA		18
LYNGBYA		165				DINOBYRON		26
COELOSPHAERIUM		9	TOTAL →		109			
APHANIZOMENON		21	CRYPTOPHYCEAE					
APHANOTHECE		9	CRYPTOMONAS		521			
MICROCYSTIS		45	RHODOMONAS		18			
			TOTAL →		539			
			EUGLENOPHYCEAE					
			EUGLENA		42			
			PHACUS		34			
			STROMBOMONAS		55			
TOTAL →		439	TOTAL →		131	TOTAL →		410

CHLOROPHYCEAE		$\mu^3$	BACILLARIOPHYCEAE		$\mu^3$	ZOOPLANKTON	No. Organisms per ML
CRUCIGENIA		8	CYCLOTELLA		57	PROTOZOANS	255
SCENEDESMUS		40	NITZSCHIA		14		
DICTYOSPHAERIUM		94	ACHNANTHES		40		
SCHROEDERIA		6	SYNEDRA		46		
COELASTRUM		219	FRAGILARIA		5		
CHODATELLA		14	STEPHANODISCUS HANTZSCHII		83		
CHLAMYDOMONAS		64					
COSMARUM		72				TOTAL →	255
FRANCEIA		34					
KOLIELLA		17					
MONORAPHIDIUM		6					
OCYSTIS		151					
KIRCHNERIELLA		10					
MICRACTINIUM		39					
GLOEOTILA		5					
GLOEOCYSTIS		44					
CLOSTERIUM		22					
TREUBARIA		28					
PEDIASTRUM		106					
ACTINASTRUM		20					
STAUASTRUM		48					
TETRASTRUM		12					
TOTAL →		1149	TOTAL →		245		

REMARKS:

SIGNED:

Heimlich

OR TOTAL CUBIC MICRONS PER ML → 3022  $\times 10^3$

MOE 0899 6/82



## PLANKTON ANALYSIS

FILE NUMBER

- 82 -

SAMPLE NUMBER

5-0

83-1681

Municipality KENT CODate Analysed Mar 26, 84Date Sampled July 21, 83Source RONDEAU BAYEnumeration Procedure 2 RADII, 1 RADII \*Station 7

Depth

Mic Factor 84.96Concentration Factor 2

CYANOPHYCEAE		<u>113</u>	DINOPHYCEAE		<u>113</u>	CHRYSTOPHYCEAE		<u>113</u>
OSCILLATORIA		<u>130</u>	UNID. DINOPHYCEAE		<u>130</u>	UNID. CHRYSOMONAS		<u>134</u>
LYNGBYA		<u>150</u>				DINOBRION		<u>57</u>
APHANIZOMENON		<u>43</u>				SALPINGOECA		<u>29</u>
MERISMOPEDIA		<u>34</u>				MALLONONAS		<u>121</u>
CHROOCOCCLUS		<u>24</u>	TOTAL →		<u>130</u>	TOTAL		<u>241</u>
COELOSOPHAERIUM		<u>16</u>	CRYPTOPHYCEAE					
MICROCYSTIS		<u>53</u>	CRYPTOMONAS		<u>1030</u>	XANTHOPHYCEAE		
APHANOCAPSA		<u>8</u>	RHODOMONAS		<u>11</u>			
APHANOTHECE		<u>18</u>	KATABLEPHARIS		<u>3</u>	CENTRITRACTUS		<u>5</u>
			TOTAL →		<u>1044</u>			
			EUGLENOPHYCEAE					
			PHACUS		<u>54</u>			
			EUGLENA		<u>94</u>			
			TRACHELOMONAS		<u>31</u>			
			STROMBOMONAS		<u>27</u>			
TOTAL →		<u>475</u>	TOTAL →		<u>266</u>	TOTAL →		<u>5</u>

CHLOROPHYCEAE		<u>113</u>	BACILLARIOPHYCEAE		<u>3</u>	ZOOPLANKTON	No. Organisms per ML
SCENEDESMUS		<u>188</u>	ACHINANTHES *		<u>382</u>	PROTOZOANS	<u>467</u>
DICTYOSOPHAERIUM		<u>161</u>	NITZSCHIA		<u>66</u>		
CHLAMYDOMONAS		<u>123</u>	SYNEDRA		<u>123</u>		
COELASTRUM		<u>358</u>	NAVICULA		<u>16</u>		
CRUCIGENIA		<u>53</u>	CYCLOTELLA		<u>52</u>		
COSMARIUM		<u>15</u>	STERIANODISCUS HANTZSCHII		<u>41</u>		
KOLELLA		<u>18</u>	TABELLARIA		<u>28</u>		
OCCYSTIS		<u>139</u>	COSCONODISCUS		<u>153</u>	TOTAL →	<u>467</u>
MICRACINIUM		<u>25</u>	RHIZOSOLENIA		<u>74</u>		
QUADRIGULA		<u>6</u>				REMARKS:	
CHODATELLA		<u>7</u>					
MONORAPHIDIUM		<u>3</u>					
KIRCHNERIELLA		<u>9</u>					
GLOEOCYSTIS		<u>22</u>					
TETRASTRUM		<u>2</u>					
STAUASTRUM		<u>108</u>					
PEDIASTRUM		<u>124</u>					
TETRAEDRON		<u>5</u>					
IREUBARIA		<u>64</u>					
TOTAL →		<u>1430</u>	TOTAL →		<u>936</u>	SIGNED: <u>Heimlich</u>	

OR

TOTAL CUBIC MICRONS PER ML

4527 x 10<sup>3</sup>

MOE 0899 6/82

## PLANKTON ANALYSIS

FILE NUMBER

- 83 -

SAMPLE NUMBER

5-0

83-1682

Municipality KENT CODate Analysed Mar 27.84Date Sampled July 21.83Source RONDEAU BAY, L. ERIEEnumeration Procedure 3 RADIIStation 10 DepthMic Factor 56.64Concentration Factor 2 ml of conc 2

CYANOPHYCEAE		<u>113</u>	DINOPHYCEAE		<u>113</u>	CHRYSTOPHYCEAE		<u>113</u>
LYNGBYA		<u>78</u>	UNID. DINOPHYCEAE		<u>68</u>	UNID. CHRYSOMONAS		<u>23</u>
OSCILLATORIA		<u>98</u>				CHRYSOCROMULINA PARVA		<u>6</u>
MERISMOPEDIA		<u>28</u>				DINOBRION		<u>13</u>
APHANOTHECE		<u>36</u>				SALPINGOCEA		<u>1</u>
APHANIZOMENON		<u>51</u>	TOTAL →		<u>68</u>			
MICROCYSTIS		<u>39</u>	CRYPTOPHYCEAE					
CHROCOCCUS		<u>11</u>	CRYPTOMONAS		<u>80</u>			
COELOSPHAERIUM		<u>13</u>	KATABLEPHARIS		<u>1</u>			
APHANOCAPSA		<u>2</u>						
			TOTAL →		<u>81</u>			
			EUGLENOPHYCEAE					
			EUGLENA		<u>9</u>			
			PHACUS		<u>20</u>			
TOTAL →		<u>356</u>	TOTAL →		<u>29</u>	TOTAL →		<u>43</u>

CHLOROPHYCEAE		<u>113</u>	BACILLARIOPHYCEAE		<u>113</u>	ZOOPLANKTON	No. Organisms per ML
GUADRIGULA		<u>9</u>	ACHNANTHES		<u>108</u>	PROTOZOA	<u>198</u>
DICTYOSPHAERIUM		<u>97</u>	NITZSCHIA		<u>64</u>		
CHODATELLA		<u>35</u>	RHIZOSOLENIA		<u>314</u>		
OOCYSTIS		<u>168</u>	STEPHANODISCUS HANTSCHII		<u>38</u>		
MICRACINIUM		<u>36</u>	TABELLARIA		<u>5</u>		
COELASTRUM		<u>71</u>	NAVICULA		<u>15</u>		
CRUCIGENIA		<u>13</u>	CYCLOTETRA		<u>27</u>		
TETRASTRUM		<u>8</u>	SYNEDRA		<u>41</u>	TOTAL →	<u>198</u>
SCENEDESMUS		<u>143</u>	SYNEDRA		<u>8</u>		
STARRASTRUM		<u>69</u>				REMARKS:	
GLOEOCYSTIS		<u>7</u>					
TREUBARIA		<u>11</u>					
KOLIELLA		<u>1</u>					
CHLAMYDOMONAS		<u>45</u>					
FRANCEIA		<u>25</u>					
PEDIASTRUM		<u>231</u>					
SCHROEDERIA		<u>3</u>					
TETRAEDRON		<u>2</u>					
KIRCHNERIELLA		<u>47</u>					
MONORAPHIDIUM		<u>4</u>					
TOTAL →		<u>1017</u>	TOTAL →		<u>620</u>	SIGNED: <u>Heintzel</u>	

OR

TOTAL CUBIC MICRONS PER ML

2214 x 10<sup>3</sup>

MOE 0899 6/82



## PLANKTON ANALYSIS

FILE NUMBER

- 84 -

SAMPLE NUMBER

5-0

83-1843

Municipality KENT CoDate Analysed Mar 28, 84Date Sampled July 27, 83Source RONDEAU BAY, L. ERICEnumeration Procedure 2 RAD IIStation 7 Depth \_\_\_\_\_Mic Factor 84.963 ml of conc  
Concentration Factor 3

CYANOPHYCEAE	$\mu^3$	DINOPHYCEAE	$\mu^3$	CHRYSTOPHYCEAE	$\mu^3$
OSCILLATORIA	74	UNID. DINOPHYCEAE	61	UNID. CHRYDOMONAS	13
LYNGBYA	145			SALPINGOECIA	3
APHANIZOMENON	66				
MICROCYSTIS	19				
COELOSOPHAERIUM	25	TOTAL →	61		
HERISMOPEDIA	9	CRYPTOPHYCEAE			
APHANOTHECE	6	CRYPTOMONAS	9		
		RHODOMONAS	1		
		TOTAL →	10		
		EUGLENOPHYCEAE			
		PHACUS	25		
		EUGLENA	70		
		TRACHELOMONAS	45		
TOTAL →	344	TOTAL →	140	TOTAL →	16

CHLOROPHYCEAE	$\mu^3$	BACILLARIOPHYCEAE	$\mu^3$	ZOOPLANKTON	No. Organisms per ML
DICTYOSOPHAERIUM	49	ACHNANTHES	19	PROTOZOANS	113
OCCYSTIS	97	NITZSCHIA	50		
STAUERASTRUM	33	SYNEDRA	44		
COSMARIUM	32	STEPHANODISCUS Hantzschii	47		
SCENEDESMUS	89	CYCLOTELLA	9		
MONORAPHIDIUM	1	COSCINODISCUS	31		
CRUCIGENIA	17	SURIRELLA	29		
GLOEOCYSTIS	61			TOTAL →	113
CHLAMYDOMONAS	15				
COELASTRUM	11				
TETRAEDRON	2				
KOLLELLA	2				
KIRCHNERIELLA	2				
MICRACTINIUM	3				
FRANCEIA	4				
TOTAL →	418	TOTAL →	229		

OR

TOTAL CUBIC MICRONS PER ML

1218 x 10<sup>3</sup>SIGNED: Heintzel

MOE 0899 6/82

5-0

- 85 -

83-1864

Municipality KENT CODate Analysed Nov 29.84Date Sampled Aug 5.83Source RONDEAU BAY, L. ERIEEnumeration Procedure 2 R0011Station 7 DepthMic Factor 84.96Concentration factor 2

CYANOPHYCEAE		DINOPHYCEAE		CHRYSTOPHYCEAE	
LYNGBYA	186	UNID. DINOPHYCEAE	271	UNID. CHRYSOMONADS	12
OSCIATORIA	278			SALPINGOCECA	9
APHANOTHECE	7				
MERISMOPEDIA	31				
ANABAENA	18	TOTAL →	271		
APHANIZOMENON	167	CRYPTOPHYCEAE			
CHLOROCOCCUS	11	CRYPTOMONAS	276		
		RHODOMONAS	32		
		TOTAL →	908		
		EUGLENOPHYCEAE			
		EUGLENA	225		
		PHACUS	99		
		TRACHELONONAS	64		
		STROMBOMONAS	151		
TOTAL →	698	TOTAL →	539	TOTAL →	21

CHLOROPHYCEAE		BACILLARIOPHYCEAE		ZOOPLANKTON	No. Organisms per ML
CHLAMYDOMONAS	110	NITZSCHIA	157	PROTOZOANS	212
KIRCHNERIELLA	2	SYNEDRA	125		
OOCYSTIS	116	ACHNANTHES	17		
MONORAPHIDIUM	5	COSCINODISCUS	263		
SCENEDESMUS	118	CYCLOTELLA	58		
MICRACTINIUM	11	STEPHANODISCUS Hantzschii	152		
TREUBARII	85	RHIZOSOLENIA	32		
SCHROEDERII	3	MELOSIRA	52	TOTAL →	212
FRANCEIA	23	SKELETONEMY	11		
COELASTRUM	316				
TETRASTRUM	8				
SELENASTRUM	9				
CLOSTERIUM	8				
CHODATELLA	34				
PEDIASTRUM	201				
GLOEOCYSTIS	113				
TETRAEDROM	2				
CRUCIGENIA	185				
KOLLELLA	3				
DICTYOSPHAERIUM	274				
QUADRIGULA	4				
TOTAL →	1630	TOTAL →	867		

REMARKS:

SIGNED:

Reinhold

OR

TOTAL CUBIC MICRONS PER ML

4934 × 10<sup>3</sup>

MOE 0899 6/82

# PLANKTON ANALYSIS

FILE NUMBER

5-0

SAMPLE NUMBER

83-1865

Municipality KENT CO

Date Analysed Apr 5.84

Date Sampled Aug 5.83

Source RONDEAU BAY, L.ERIE

Enumeration Procedure

1 RADIUS

Station 10 Depth

Mic Factor 169.913

2 ml of conc  
Concentration Factor 2

CYANOPHYCEAE		<u>13</u>	DINOPHYCEAE		<u>13</u>	CHRYSTOPHYCEAE		<u>13</u>
OSCILLATORIA		<u>259</u>	UNID. DINOPHYCEAE		<u>432</u>	UNID. CHRYSOMONADS		<u>30</u>
LYNGBYA		<u>451</u>				CHRYSOCYTHOMONAS PARVA		<u>40</u>
APHANIZOMENON		<u>369</u>				SALPINGOECA		<u>61</u>
APHANOTHECE		<u>4</u>				DINOBYRON		<u>33</u>
HERISMOPEDIA		<u>35</u>	TOTAL	→	<u>432</u>	MALLOMONAS		<u>54</u>
COELOSPHAERIUM		<u>10</u>	CRYPTOPHYCEAE					
MICROCYSTIS		<u>229</u>	CRYPTOMONAS		<u>726</u>			
			RHODOMONAS		<u>43</u>			
			TOTAL	→	<u>769</u>			
			EUGLENOPHYCEAE		<u>178</u>			
			STROMBOMONAS					
			EUGLENA		<u>142</u>			
			TRACHELONONAS		<u>183</u>			
TOTAL	→	<u>1357</u>	TOTAL	→	<u>504</u>	TOTAL	→	<u>218</u>

CHLOROPHYCEAE		<u>13</u>	BACILLARIOPHYCEAE		<u>13</u>	ZOOPLANKTON	No. Organisms per ML
DICTYOSPHAERIUM		<u>453</u>	ACHNANTHES		<u>62</u>		
CHODATELLA		<u>26</u>	SYNEDRA		<u>105</u>		
GLOEOTILA		<u>5</u>	DIATOMA		<u>190</u>		
KIRCHNERIELLA		<u>20</u>	CYCLOTELLA		<u>231</u>		
TETRASTRUM		<u>42</u>	MITZSCHIA		<u>217</u>		
SCENEDESMUS		<u>69</u>	STEPHANODISCUS Hantzschii		<u>602</u>		
OOCYSTIS		<u>85</u>					
KOLLELLA		<u>23</u>					
TREUBARIA		<u>44</u>					
CRUCIGENIA		<u>44</u>					
TETRAEDRON		<u>27</u>					
COELASTRUM		<u>127</u>					
MICRACTINIUM		<u>19</u>					
SCHROEDERIA		<u>5</u>					
COSMARIUM		<u>39</u>					
CHLAMYDOMONAS		<u>106</u>					
MONOCARPIDIUM		<u>11</u>					
GUADRIGULA		<u>9</u>					
TOTAL	→	<u>1154</u>	TOTAL	→	<u>1407</u>		

REMARKS:

SIGNED:

Hejral

OR TOTAL CUBIC MICRONS PER ML

5841x10<sup>3</sup>

# PLANKTON ANALYSIS

FILE NUMBER

5-0

SAMPLE NUMBER

83-1865

Municipality KENT CO

Date Analysed Apr 5.84

Date Sampled Aug 5.83

Source RONDEAU BAY, L.ERIE

Enumeration Procedure

1 RADIIUS

Station 10

Depth

Mic Factor 169.913

2 ml of conc  
Concentration Factor 2

CYANOPHYCEAE		<u>113</u>	DINOPHYCEAE		<u>113</u>	CHRYSTOPHYCEAE		<u>113</u>
OSCILLATORIA		<u>259</u>	UNID. DINOPHYCEAE		<u>432</u>	UNID. CHRYSOMONADS		<u>30</u>
LYNGBYA		<u>451</u>				CHRYSOCYTHOMONAS		<u>40</u>
APHANIZOMENON		<u>369</u>				SALPINGOECA		<u>61</u>
APHANOTHECE		<u>4</u>				DINOBYRON		<u>33</u>
MERISMOPEDIA		<u>35</u>	TOTAL	→	<u>432</u>	MALLONAS		<u>54</u>
COELOSPHAERIUM		<u>10</u>	CRYPTOPHYCEAE					
MICROCYSTIS		<u>229</u>	CRYPTOMONAS		<u>726</u>			
			RHODOMONAS		<u>43</u>			
			TOTAL	→	<u>769</u>			
			EUGLENOPHYCEAE		<u>178</u>			
			STROMBOMONAS		<u>142</u>			
			EUGLENA		<u>183</u>			
			TRACHELONONAS					
TOTAL	→	<u>1357</u>	TOTAL	→	<u>504</u>	TOTAL	→	<u>218</u>

CHLOROPHYCEAE		<u>113</u>	BACILLARIOPHYCEAE		<u>113</u>	ZOOPLANKTON	No. Organisms per ML
DICTYOSPHAERIUM		<u>453</u>	ACHNANTHES		<u>62</u>		
CHODATELLA		<u>26</u>	SYNEDRA		<u>105</u>		
GLOEOTILA		<u>5</u>	DIATOMA		<u>190</u>		
KIRCHNERIELLA		<u>20</u>	CYCLOTELLA		<u>231</u>		
TETRASTRUM		<u>42</u>	MITZSCHIA		<u>217</u>		
SCENEDESMUS		<u>69</u>	STEPHANODISCUS HAMZSCHII		<u>602</u>		
OOCYSTIS		<u>85</u>					
KOLIELLA		<u>23</u>				TOTAL	→
TREUBARIA		<u>44</u>					
CRUCIGENIA		<u>44</u>				REMARKS:	
TETRAEDRON		<u>27</u>					
COELASTRUM		<u>127</u>					
MICRACTINIUM		<u>19</u>					
SCHROEDERIA		<u>5</u>					
COSMARIUM		<u>39</u>					
CHLAMYDOMONAS		<u>106</u>					
MONORAPHIDIUM		<u>11</u>					
GUARDIGULA		<u>9</u>					
TOTAL	→	<u>1154</u>	TOTAL	→	<u>1407</u>	SIGNED:	<u>Heinrich</u>
OR					<u>5841 x 10<sup>3</sup></u>		
TOTAL CUBIC MICRONS PER ML							

## PLANKTON ANALYSIS

FILE NUMBER

5-0

SAMPLE NUMBER

83-1867

Municipality KENT CO.Date Analysed Apr 6. 84 Date Sampled Aug 10. 83Source RONDEAU BAY, L. ERIEEnumeration Procedure 2 RADIIStation 10 Depth \_\_\_\_\_Mic Factor 84.96 2 ml of conc  
Concentration Factor 2

CYANOPHYCEAE			DINOPHYCEAE			CHRYSTOPHYCEAE		
OSCILLATORIA	$\mu^3$	310			$\mu^3$	UNID. CHRYSOMONADS		$\mu^3$
LYNGBYA		329				SALPINGOCEA		7
APHANIZOMENON		374				CHRYSOCHROMULLINA PARVA		24
MERISMEDIA		14				KEPHYRION		4
APHANOTHECE		15	TOTAL	→				
MICROCYSTIS		50	CRYPTOPHYCEAE			TOTAL		54
CHROOCOCCUS		14	CRYPTOMONAS		71			
APHANOCAPSA		9	RHODOMONAS		14	XANTHOPHYCEAE		
			KATABLEPHARIS		3	CENTRIFRACTUS		5
			TOTAL	→	88			
			EUGLENOPHYCEAE					
TOTAL	→	1115	TOTAL	→		TOTAL	→	

CHLOROPHYCEAE			BACILLARIOPHYCEAE			ZOOPLANKTON	No. Organisms per ML
DICTYOSPHAERIUM	$\mu^3$	123	NITZSCHIA		$\mu^3$		
CHODATELLA		15	STEPHANODISCUS HANTZSCHII		264		
KIRCHNERIELLA		2	CYCLOTELLA		92		
CHLAMYDOMONAS		46	SYNEDRA		45		
PEDIASTRUM		37	ATHEYA		213		
MONORAPHIDIUM		19	AMPHORA		26		
OOCYSTIS		97	ACHNANTHES		112		
FRANCEIA		69				TOTAL	→
CRUCIGENIA		27					
COELASTRUM		214				REMARKS:	
SCENEDESMUS		41					
MICRACTINIUM		19					
PLANCTONEMA		7					
COSMARUM		37					
KIRCHNERIELLA		4					
GLOEOCYSTIS		40					
KOLIELLA		8					
SCHROEDERIA		16					
TREUBARIA		22					
TETRAEDRON		9					
TOTAL	→	852	TOTAL	→	1071	SIGNED: <u>Heimbach</u>	

OR TOTAL CUBIC MICRONS PER ML

3185  $\times 10^3$

## PLANKTON ANALYSIS

FILE NUMBER

SAMPLE NUMBER

5-0

- 89 -

83-1866

Municipality KENT CODate Analysed Mar 30.84 Date Sampled Aug 10.83Source RONDEAU BAY, L. ERIEEnumeration Procedure 1 RADIIUSStation 7 DepthMic Factor 169.913 2 ml of unc  
Concentration Factor 2

CYANOPHYCEAE	$\mu^3$	DINOPHYCEAE	$\mu^3$	CHRYSTOPHYCEAE	$\mu^3$
LYNGBYA	474	UNID. DINOPHYCEAE	291	UNID. CHRYSOMONADS	43
OSCILLATORIA	393			SALPINGOCECA	48
APHANIZOMENON	683			CHRYSOPHOMULINA PPARA	42
MICROCYSTIS	228				
MERISMOPEDIA	32	TOTAL →	291		
APHANOTHECE	23	CRYPTOPHYCEAE			
		CRYPTOMONAS	337		
		RHODOMONAS	41		
		TOTAL →	378		
		EUGLENOPHYCEAE			
		EUGLENA	402		
		PHACUS	84		
TOTAL →	1833	TOTAL →	486	TOTAL →	133

CHLOROPHYCEAE	$\mu^3$	BACILLARIOPHYCEAE	$\mu^3$	ZOOPLANKTON	No. Organisms per ML
CHLOROBANKIUM	5	CYCLOTETRA	94	PROTOZOANS	255
MICRACTINIUM	28	NITZSCHIA	120		
DICTYOSPHAERIUM	241	ACHNANTHES	77		
DOCYSTIS	25	STEPHANODISCUS HANTZSCHII	343		
MONOPARHIDIUM	18	NAVICULA	17		
SCENEDESMUS	80	COSCONODISCUS	118		
CHILAMYDOMONAS	95	SYNEDRA	122		
CHODATELLA	8			TOTAL →	255
KIRCHNERIELLA	5				
COELASTRUM	259				
CRUCIGENIA	100				
TETRASTRUM	5				
TETRAEDRON	19				
TOTAL →	888	TOTAL →	891		

REMARKS:

SIGNED:

Heinrich

OR

TOTAL CUBIC MICRONS PER ML

4900403

MOE 0899 6/82



# PLANKTON ANALYSIS

FILE NUMBER

5-0

SAMPLE NUMBER

83-1867

Municipality KENT CO.

Date Analysed Apr 6. 84 Date Sampled Aug 10. 83

Source RONDEAU BAY, L. ERIE

Enumeration Procedure 2 RADII

Station 10 Depth

Mic Factor 84.96 2 ml of conc  
Concentration Factor 2

CYANOPHYCEAE			DINOPHYCEAE			CHRYSTOPHYCEAE		
OSCILLATORIA		$\mu^3$ 310			$\mu^3$	UNID. CHRYSOMONADS		$\mu^3$ 19
LYNGBYA		329				SALPINGOCECA		7
APHANIZOMENON		374				CHRYSOCHROMULINA PARVA		24
MERISMOPEDIA		14				KEPHYRION		4
APHANOTHECE		15	TOTAL →					
MICROCYSTIS		50	CRYPTOPHYCEAE			TOTAL		54
CHROOCOCCUS		14	CRYPTOMONAS		71			
APHANOCARSA		9	RHODOMONAS		14	XANTHOPHYCEAE		
			KATABLEPHARIS		3	CENTRIFRACTUS		5
			TOTAL →		88			
			EUGLENOPHYCEAE					
TOTAL →		1115	TOTAL →			TOTAL →		

CHLOROPHYCEAE			BACILLARIOPHYCEAE			ZOOPLANKTON	No. Organisms per ML
DICTYOSPHAERIUM		$\mu^3$ 123	NITZSCHIA		$\mu^3$ 264		
CHODATELLA		15	STEPHANODISCUS HANTZSCHII		319		
KIRCHNERIELLA		2	CYCLOTELLA		92		
CHLAMYDOMONAS		46	SYNEDRA		45		
PEDIASTRUM		37	ATTHEYA		213		
MONORAPHIDIUM		19	AMPHORA		26		
OOCYSTIS		97	ACHNANTHES		112		
FRANCEIA		69				TOTAL →	
CRUCIGENIA		27					
COELASTRUM		214				REMARKS:	
SCENEDESMUS		41					
MICRACTINIUM		19					
PLANCTONEMA		7					
COSMARIUM		37					
KIRCHNERIELLA		4					
GLOEOCHYSTIS		40					
KOLIELLA		8					
SCHROEDERIA		16					
TREBARRIA		22					
TETRAEDRON		9					
TOTAL →		852	TOTAL →		1071	SIGNED: <u>Heimbach</u>	

OR

TOTAL CUBIC MICRONS PER ML

3185  $\times 10^3$

## PLANKTON ANALYSIS

FILE NUMBER

5-0

SAMPLE NUMBER

83-1966

Municipality KENT CODate Analysed Apr 11. 84Date Sampled Aug 14. 83Source RONDEAU BAY, L. ERIEEnumeration Procedure 1 RADIIUSStation 7 Depth \_\_\_\_\_Mic Factor 169.913Concentration Factor 2

CYANOPHYCEAE			DINOPHYCEAE			CHRYSTOPHYCEAE		
OSCILLATORIA	$\mu^3$	424	UNID. DINOPHYCEAE	$\mu^3$	228	UNID. CHRYSOMONADS	$\mu^3$	29
LYNGBYA		565				MALLONAS		420
APHANIZOMENON		966						
MICROCYSTIS		423						
APHANOTHECE		39	TOTAL	→	828			
MERISMOPEDIA		31	CRYPTOPHYCEAE					
COELOSPHAERIUM		15	CRYPTOMONAS		147			
			RHODOMONAS		27			
			TOTAL	→	174			
			EUGLENOPHYCEAE					
			TRACHELOMONAS		317			
			EUGLENA		163			
			LEPOTINCLIS		14			
TOTAL	→	2463	TOTAL	→	494	TOTAL	→	71

CHLOROPHYCEAE			BACILLARIOPHYCEAE			ZOOPLANKTON	No. Organisms per ML
MICRACTINIUM	$\mu^3$	14	NITZSCHIA	$\mu^3$	605		
SCHROEDERIA		5	ACHNANTHES		30		
DITYOSPHAERIUM		201	CYCLOTELLA		131		
FRANCEIA		57	AMPHORA		18		
SCENEDESMUS		94	STEPHANODISCUS Hantzschii		334		
CHODATIELLA		4	SYNEDRA		104		
KIRCHNERIELLA		5	STEPHANODISCUS BINDERMANI		83		
OOCYSTIS		130	RHIZOSOLENIA		15	TOTAL	→
PLANCTONEMA		192					
TETRAEDRON		21					
CRUCIGENIA		39					
CHLAMYDOMONAS		67					
KOWELLA		9					
STAMPASTRUM		57					
COELASTRUM		32					
MONORAPHIDIUM		19					
GUADRIGULA		5					
TOTAL	→	951	TOTAL	→	1320		

REMARKS:

SIGNED: Reintsch

OR

TOTAL CUBIC MICRONS PER ML

5701  $\times 10^3$



## PLANKTON ANALYSIS

- 92 -

FILE NUMBER

5-0

SAMPLE NUMBER

83-1967

Municipality KENT CODate Analysed Apr 10.84 Date Sampled Aug 14.83Source RONDEAU BAYEnumeration Procedure 2 RPD 11Station 10

Depth \_\_\_\_\_

Mic Factor 84.96Concentration Factor 2

CYANOPHYCEAE	$\mu^3$	DINOPHYCEAE	$\mu^3$	CHRYSTOPHYCEAE	$\mu^3$
OSILLATORIA	222			UNID. CHRYSOMONADS	16
LYNGBYA	440			DINOBYON	14
APHANIZOMENON	648				
APHANTHECE	14				
MICROCYSTIS	235	TOTAL →			
CHROOCOCUS	5	CRYPTOPHYCEAE			
COELOSPHAERIUM	2	CRYPTOMONAS	226		
		RHODOMONAS	5		
		TOTAL →	231		
		EUGLENOPHYCEAE			
		TRACHELONONAS	120		
		LEPOTINCLUS	91		
TOTAL →	1566	TOTAL →	211	TOTAL →	30

CHLOROPHYCEAE	$\mu^3$	BACILLARIOPHYCEAE	$\mu^3$	ZOOPLANKTON	No. Organisms per ML
COELASTRUM	38	NISSCHIA	195		
DICTYOSPHAERIUM	141	ACHNANTHES	37		
SCENERESMUS	96	SYNEDRA	46		
CHLAMYDOMONAS	63	FRAGILARIA	9		
MONORAPHIDIUM	14	ATHEVA	196		
CHODATELLA	4	SKELETONEMA	27		
KOLIELLA	11	STEPHANODISCUS HANTZSCHII	75		
SCHROEDERIA	7			TOTAL →	
OOCYSTIS	58	CYCLOTELLA	52		
CLOSTERIUM	8			REMARKS:	
GLOEOCYSTIS	64				
MICRACTINIUM	5				
TREUBARIA	46				
FRANCEIA	20				
CEUCIGENIA	6				
TOTAL →	581	TOTAL →	637	SIGNED: <u>Heinrich</u>	
OR					
TOTAL CUBIC MICRONS PER ML			3256x10 <sup>3</sup>		

MOE 0899 6/82

## PLANKTON ANALYSIS

FILE NUMBER

5-0

SAMPLE NUMBER

83-1966

Municipality KENT CODate Analysed Apr 11. 84Date Sampled Aug 14. 83Source RONDEAU BAY, L. ERIEEnumeration Procedure 1 RADIIUSStation 7 Depth \_\_\_\_\_Mic Factor 169.913Concentration Factor 2

CYANOPHYCEAE	$\mu^3$	DINOPHYCEAE	$\mu^3$	CHRYSTOPHYCEAE	$\mu^3$
OSCILLATORIA	424	UNID. DINOPHYCEAE	228	UNID. CHRYSOMONADS	29
LYNGBYA	565			MALLOMONAS	420
APHANIZOMENON	966				
MICROCYSTIS	423				
APHANOTHECE	39	TOTAL →	228		
MERISMOPEDIA	31	CRYPTOPHYCEAE			
COELOSOPHAERIUM	15	CRYPTOMONAS	147		
		RHODOMONAS	21		
		TOTAL →	174		
		EUGLENOPHYCEAE			
		TRACHELOMONAS	317		
		EUGLENA	163		
		LEPOTINCLIS	14		
TOTAL →	2463	TOTAL →	494	TOTAL →	71

CHLOROPHYCEAE	$\mu^3$	BACILLARIOPHYCEAE	$\mu^3$	ZOOPLANKTON	No. Organisms per ML
MICRACTINIUM	14	NITZSCHIA	605		
SCHROEDERIA	5	ACHNANTHES	30		
DICTYOSOPHAERIUM	201	CYCLOTELLA	131		
FRANCEIA	57	AMPHORA	18		
SCENEDESMUS	94	STEPHANODISCUS Hantzshii	334		
CHODATIELLA	4	SYNEDRA	104		
KIRCHNERIELLA	5	STEPHANODISCUS BINDERAN.	83		
OOCYSTIS	130	RHIZOSOLENIA	15	TOTAL →	
PLANKTONEMA	192				
TETRAEDRON	21				
CRUCIGENIA	39				
CHLAMYDOMONAS	67				
KOLIELLA	9				
STAUROSTRUM	57				
COELASTRUM	32				
MONORAPHIDIUM	19				
QUADRIGULA	5				
TOTAL →	951	TOTAL →	1320		

REMARKS:

SIGNED: Reintsch

OR

TOTAL CUBIC MICRONS PER ML

5701410<sup>3</sup>

## PLANKTON ANALYSIS

- 94 -  
FILE NUMBER

5-0

SAMPLE NUMBER

83-1967

Municipality KENT CODate Analysed Apr 10.84 Date Sampled Aug 14.83Source RONDEAU BAYEnumeration Procedure 2 RAD IIStation 10 DepthMic Factor 84.96 Concentration Factor 2

CYANOPHYCEAE			DINOPHYCEAE			CHRYSTOPHYCEAE		
OSCILLATORIA		<u>222</u>				UNID. CHRYSOMONADS		<u>16</u>
LYNGBYA		<u>440</u>				DINOBYON		<u>14</u>
APHANIZOMENON		<u>648</u>						
APHANOTHECE		<u>14</u>						
MICROCYSTIS		<u>235</u>	TOTAL	→				
CHROOCOCCLUS		<u>5</u>	CRYPTOPHYCEAE					
COELOSOPHAERIUM		<u>2</u>	CRYPTOMONAS		<u>226</u>			
			RHODOMONAS		<u>5</u>			
			TOTAL	→	<u>231</u>			
			EUGLENOPHYCEAE					
			TRACHELOMONAS		<u>120</u>			
			LEPOTINCLUS		<u>91</u>			
TOTAL	→	<u>1566</u>	TOTAL	→	<u>211</u>	TOTAL	→	<u>30</u>

CHLOROPHYCEAE			BACILLARIOPHYCEAE			ZOOPLANKTON	No. Organisms per ML
COELASTRUM		<u>38</u>	NITZSCHIA		<u>195</u>		
DICTYOSOPHAERIUM		<u>141</u>	ACHNANTHES		<u>37</u>		
SCENEDESMUS		<u>96</u>	SYNEDRA		<u>46</u>		
CHLAMYDOMONAS		<u>63</u>	FRAGILARIA		<u>9</u>		
MONORAPHIDIUM		<u>14</u>	ATHEVA		<u>196</u>		
CHODATELLA		<u>4</u>	SKELETONEMA		<u>27</u>		
KOLIELLA		<u>11</u>	STEPHANODISCUS HANTZSCHII		<u>75</u>		
SCHROEDERIA		<u>7</u>				TOTAL	→
OCYSTIS		<u>58</u>	CYCLOTELLA		<u>52</u>		
CLOSTERIUM		<u>8</u>				REMARKS:	
GLOEOCYSTIS		<u>64</u>					
MICRACTINIUM		<u>5</u>					
TREUBERIA		<u>46</u>					
FRANCEIA		<u>20</u>					
CRUCIGENIA		<u>6</u>					
TOTAL	→	<u>581</u>	TOTAL	→	<u>637</u>	SIGNED: <u>Heimlich</u>	
OR					<u>3256x10<sup>3</sup></u>		
TOTAL CUBIC MICRONS PER ML							

## PLANKTON ANALYSIS

FILE NUMBER

5-0

SAMPLE NUMBER

83-2094

Municipality KENT CODate Analysed Apr 13. 84 Date Sampled Aug 21. 83Source RONDEAU BAY, L. ERIEEnumeration Procedure 1 RADIALSStation 10 Depth Mic Factor 169.913 Concentration Factor 2

CYANOPHYCEAE		<sup>103</sup>	DINOPHYCEAE		<sup>103</sup>	CHRYSTOPHYCEAE		<sup>103</sup>
APHANIZOMENON		1737	UNID. DINOPHYCEAE		97	UNID. CHRYSOMONADS		39
OSCILLATORIA		141				SALPINGOECIA		10
MICROCYSTIS		143				DINOBRION		64
LYNGBYA		794				Chrysoschromulina parva		28
APHANOTHECE		42	TOTAL	→	97			
COELOSPHAERIUM		21	CRYPTOPHYCEAE					
			CRYPTOMONAS		116			
			RHODOMONAS		1			
			TOTAL	→	117			
			EUGLENOPHYCEAE		67			
			EUGLENA		288			
			TRACHELONONAS		49			
			PHACUS					
TOTAL	→	2878	TOTAL	→	404	TOTAL	→	141

CHLOROPHYCEAE		<sup>103</sup>	BACILLARIOPHYCEAE		<sup>103</sup>	ZOOPLANKTON	No. Organisms per ML
Dictyosphaerium		347	ACHNANTHES		21		
Scenedesmus		48	NITZSCHIA		391		
Monoraphidium		7	CYCLOTELLA		34		
Oocystis		42	STEPHANODISCUS Hantzschii		319		
Kirchneriella		4	ATTNEYA		408		
Crucigenia		13	TABELLARIA		16		
Micractinium		8	RHIZOSOLENIA		142		
Coelastrum		274	Synedra		182	TOTAL	→
Chodatella		41					
Tetradon							
Tetrastrum		5					
Closterium		47					
Chlamydomonas		54					
Treubaria		15					
Pedrastrum		244					
Staurastrum		34					
Koliella		5					
Schroederia		23					
Planktonema		17					
Quadrifida		2					
TOTAL	→	1231	TOTAL	→	1513		

REMARKS:

SIGNED: L. Heintzsch

OR

TOTAL CUBIC MICRONS PER ML

6381 x 10<sup>3</sup>

## PLANKTON ANALYSIS

FILE NUMBER

5-0

SAMPLE NUMBER

83-2094

Municipality KENT CODate Analysed Apr 13-84 Date Sampled Aug 21. 83Source RONDEAU BAY, L. ERIEEnumeration Procedure 1 RADIN'SStation 10 DepthMic Factor 169.913 Concentration Factor 2

CYANOPHYCEAE			DINOPHYCEAE			CHRYSTOPHYCEAE		
APHANIZOMENON		<sup>103</sup> 1737	UNID. DINOPHYCEAE		<sup>103</sup> 97	UNID. CHRYSOMONADS		<sup>103</sup> 39
OSCILLATORIA		141				SALPINGOECIA		10
MICROCYSTIS		143				DINOBRION		64
LYNGBYA		734				Chrysochromulina parva		28
APHANOTHECE		42	TOTAL →		97			
COELOSphaerium		21	CRYPTOPHYCEAE					
			CRYPTOMONAS		116			
			RHODOMONAS		1			
			TOTAL →		117			
			EUGLENOPHYCEAE					
			EUGLENA		67			
			TRACHELOMONAS		988			
			PHACUS		49			
TOTAL →		2878	TOTAL →		404	TOTAL →		141

CHLOROPHYCEAE			BACILLARIOPHYCEAE			ZOOPLANKTON	No. Organisms per ML
Dictyosphaerium		<sup>103</sup> 347	ACHNANTHES		<sup>103</sup> 21		
Scenedesmus		48	NITZSCHIA		391		
Monoraphidium		7	CYCLOTELLA		34		
Oocystis		42	STEPHANODISCUS Hantzschii		319		
Kirchneriella		4	ATHEYA		408		
Crucigenia		13	TABELLARIA		16		
Micractinium		8	RHIZOSOLENIA		142		
Coelastrum		274	Synedra		182	TOTAL →	
Chodatella		41					
Tetradion		5					
Tetrasstrum		47					
Closterium		54					
Chlamydomonas		15					
Traubaria		244					
Pedrastrum		34					
Staurastrum		5					
Koliella		23					
Schroederia		17					
Planktonema		2					
Quadrifida							
TOTAL →		1231	TOTAL →		1513		

REMARKS:

SIGNED: L. Heintsch

OR

TOTAL CUBIC MICRONS PER ML

6381 x 10<sup>3</sup>

# PLANKTON ANALYSIS

- 97 -  
FILE NUMBER

5-0

SAMPLE NUMBER

83-2172

Municipality KENT CO.

Date Analysed May 10. 84

Date Sampled Aug 29. 83

Source RONDEAU BAY, L. ERIE

Enumeration Procedure

1 RADIUS

Station 7

Depth

Mic Factor 169.913

Concentration Factor 2

CYANOPHYCEAE			DINOPHYCEAE			CHRYSTOPHYCEAE		
APHANIZOMENON		387				UNID. CHRYSOMONADS		58
LYNGBYA		724				CHRYSOCHROMULLIA PARVA		88
OSCILLATORIA		354				SALPINGOECIA		4
COELOSPHAERIUM		35				MALLONAS		26
MERISKOPEDIA		9	TOTAL	→		DINOBYRON		34
APHANOTHECE		13	CRYPTOPHYCEAE					
			CRYPTOMONAS		49			
			RHODOMONAS		8			
			RATABLEPHARIS		4			
			TOTAL	→	61			
			EUGLENOPHYCEAE					
TOTAL	→	1522	TOTAL	→		TOTAL	→	210

CHLOROPHYCEAE			BACILLARIOPHYCEAE			ZOOPLANKTON	No. Organisms per ML
TETRASTRUM		22	SYNEDRA		103		
COELASTRUM		14	NITZSCHIA		583		
KOLLELLA		11	CYCLOTELLA		105		
COSMARUM		137	STEPHANODISCUS HANTZSCHII		81		
OOCYSTIS		35	DIATOMA		103		
DICTYOSPHAERIUM		23	RHIZOSOLENIA		9		
KIRCHNERIELLA		5					
GUERDIGULA		5				TOTAL	→
CHLAMYDOMONAS		14					
CHODATELLA		2					
CRUCIGENIA		33					
SCENEDESMUS		90					
MONORAPHIDIUM		13					
PLANKTONEMA		196					
TETRAEDRON		30					
TOTAL	→	636	TOTAL	→	983		

REMARKS:

SIGNED:

*Hejlskov*

OR TOTAL AREA STANDARD UNITS PER ML

TOTAL CUBIC MICRONS PER ML

3412 x 10<sup>3</sup>



# PLANKTON ANALYSIS

FILE NUMBER

5-0

SAMPLE NUMBER

83-2173

Municipality Kent County

Date Analysed May 24-84

Date Sampled Aug 29-83

Source Lake Erie - Rondeau Bay

Enumeration Procedure 4R, #1R, #13R

Station #10

Depth

Mic Factor 42.6630

Concentration Factor 211.52

CYANOPHYCEAE			DINOPHYCEAE			CHRYSTOPHYCEAE		
	$\mu^3$			$\mu^3$			$\mu^3$	
Lyngbya	+	1881	Unidentified	128		Chrysochromulina	**	27
Oscillatoria		816	Dinophyceae			parva		
Aphanizomenon		1266				Dinobryon		21
Microcystis		47				Mallomonas		55
Chroococcus		4	TOTAL	128				
Coelosphaerium	p		CRYPTOPHYCEAE					
Merismopedia	p			$\mu^3$				
			Cryptomonas	237				
			Rhodomonas	2				
			Hatletharps	4				
			TOTAL	243				
			EUGLENOPHYCEAE					
				$\mu^3$				
			Euglena	84				
TOTAL		4014	TOTAL	84		TOTAL		103

CHLOROPHYCEAE			BACILLARIOPHYCEAE			ZOOPLANKTON	
	$\mu^3$			$\mu^3$			No. Organisms per ML
Scenedesmus	72		Melosira	191		Ciliates	85
Dictyosphaerium	48		Synedra	668		Keratella	21
Monoraphidium	77		Nitzschia	662		Trichocerca	p
Oocystis	48		Cyclotella	520			
Tetrastrum	8		Rhizosolenia	26			
Guadrigula	2		Atheys	p			
Chlamydomonas	138						
Coelastrum	28					TOTAL	106
Closterium	18						
Treubaria	p					REMARKS:	
Arthrodesmus	p						
Chodatella	p						
Kirchneriella	p						
Pediastrum	p						
TOTAL	439		TOTAL	2067		SIGNED <u>d. J. Stancuk</u>	
OR							

TOTAL CUBIC MICRONS PER ML

7078 x 10<sup>3</sup>

# PLANKTON ANALYSIS

- 99 -  
FILE NUMBER

5-D

SAMPLE NUMBER

83-2345

Municipality Kent County

Date Analysed May 30, 84 Date Sampled Sept 5, 83

Source Lake Erie - Rondeau Bay

Enumeration Procedure 3R, \*1R

Station #7

Depth

Mic Factor 568840

Concentration Factor 2x1=2

CYANOPHYCEAE	$\mu^3$	DINOPHYCEAE	$\mu^3$	CHRYSTOPHYCEAE	$\mu^3$
<i>Lyngbya</i>	1845	Unidentified	67	<i>Dinobryon</i>	74
<i>Oscillatoria</i>	882	<i>Dinophyceae</i>		<i>Mallomonas</i>	96
<i>Aphanizomenon</i>	1284				
<i>Chroococcus</i>	3				
<i>Microcystis</i>	14	TOTAL →	67		
<i>Merismopedia</i>	3	CRYPTOPHYCEAE	$\mu^3$		
		<i>Cryptomonas</i>	242		
		<i>Rhodomonas</i>	3		
		TOTAL →	245		
		EUGLENOPHYCEAE	$\mu^3$		
		<i>Euglena</i>	425		
		<i>Phacus</i>	81		
TOTAL →	4031	TOTAL →	506	TOTAL →	170

CHLOROPHYCEAE	$\mu^3$	BACILLARIOPHYCEAE	$\mu^3$	ZOOPLANKTON	No. Organisms per ML
<i>Chlamydomonas</i>	38	<i>Synedra</i>	1025	<i>Ciliates</i>	85
<i>Scenedesmus</i>	102	<i>Athya</i>	207		
<i>Gloecystis</i>	22	<i>Nitzschia</i>	304		
<i>Monoraphidium</i>	30	<i>Cyclotella</i>	103		
<i>Dacystis</i>	13	<i>Gyrosigma</i>	p		
<i>Treubaria</i>	2				
<i>Chodatella</i>	1				
<i>Coelastrum</i>	23			TOTAL →	85
<i>Dictyosphaerium</i>	30				
<i>Mougeotia</i>	101				
<i>Crucigenia</i>	p				
<i>Pediastrum</i>	p				
TOTAL →	362	TOTAL →	1639		

REMARKS:

SIGNED: A. J. Standke

OR TOTAL CUBIC MICRONS PER ML → 7020 x 10<sup>3</sup>



## PLANKTON ANALYSIS

- 100 -

FILE NUMBER

5-0

SAMPLE NUMBER

83-2346

Municipality Kent CountyDate Analysed June 5-84 Date Sampled Sep 15-83Source Lake Erie - Rondeau BayEnumeration Procedure 4R, \*1RStation #10 Depth \_\_\_\_\_Mic Factor 42.6630 Concentration Factor 2X1=2

CYANOPHYCEAE			DINOPHYCEAE			CHRYSTOPHYCEAE		
<i>Lyngbya</i>	#	$\mu^2$ 1446	<i>Peridinium</i>		$\mu^3$ 42	<i>Chrysochromulina parva</i>		$\mu^3$ 1
<i>Oscillatoria</i>		648				<i>Dinobryon</i>		10
<i>Aphanizomenon</i>		436						
<i>Microcystis</i>		4						
<i>Merismopedia</i>		4	TOTAL $\rightarrow$		42			
<i>Coelosphaerium</i>		148	CRYPTOPHYCEAE					
<i>Chroococcus</i>		2	<i>Cryptomonas</i>		$\mu^3$ 106			
			TOTAL $\rightarrow$		106			
			EUGLENOPHYCEAE					
			<i>Euglena</i>		$\mu^3$ 76			
			<i>Phacus</i>		36			
TOTAL $\rightarrow$		2688	TOTAL $\rightarrow$		112	TOTAL $\rightarrow$		11

CHLOROPHYCEAE		BACILLARIOPHYCEAE		ZOOPLANKTON		No. Organisms per ML
	$\mu^3$		$\mu^3$			
Monoraphidium	30	Synedra	462	Keratella		21
Chodatella	3	Nitzschia	217	Ciliates		21
Treubaria	1	Gyrasigma	211			
Scenedesmus	52	Cyclotella	67			
Dictyosphaerium	30	Melosira	p			
Chlamydomonas	30					
Oocystis	10					
Crucigenia	4				TOTAL →	42
Gloeoecystis	38				REMARKS:	
Coelastrum	128					
Closterium	61					
Mougeotia	p					
Pediastrum	p					
TOTAL →	387	TOTAL →	957	SIGNED: AG Standke		
OR			→	4303 x 10 <sup>3</sup>		
TOTAL CUBIC MICRONS PER ML						

MOE 0899 6/8/2

MOE 0899 6/82

# PLANKTON ANALYSIS

FILE NUMBER

5-0

SAMPLE NUMBER

83-2520

Municipality Kent County  
Source Lake Erie - Rondeau Bay  
Station 7 Depth \_\_\_\_\_

Date Analysed June 7-84 Date Sampled Sept 11-83  
Enumeration Procedure 2R, #1P  
Mic Factor 85.3260 Concentration Factor 2x1=2

CYANOPHYCEAE			DINOPHYCEAE			CHRYSTOPHYCEAE		
<i>Lyngbya</i>	*	1288	Unidentified		187	Unidentified		30
<i>Oscillatoria</i>		1018	<i>Dinophyceae</i>			<i>Chrysophyceae</i>		58
<i>Aphanizomenon</i>		199				<i>Chrysochromulina parva</i>		
<i>Microcystis</i>		18				<i>Dinobryon</i>		p
<i>Crocoscocus</i>		6	TOTAL →		187			
			CRYPTOPHYCEAE					
			<i>Cryptomonas</i>		228			
			<i>Rhodomonas</i>		24			
			TOTAL →		252			
			EUGLENOPHYCEAE					
			<i>Euglena</i>		89			
			<i>Phacus</i>		121			
TOTAL →		2529	TOTAL →		210	TOTAL →		88

CHLOROPHYCEAE			BACILLARIOPHYCEAE			ZOOPLANKTON	No. Organisms per ML
<i>Mougeotia</i>		141	<i>Synedra</i>		748	<i>Ciliates</i>	43
<i>Chlamydomonas</i>		41	<i>Nitzschia</i>		651		
<i>Gloeoacystis</i>		10	<i>Gyrosigma</i>		p		
<i>Treubaria</i>		8	<i>Cyclotella</i>		139		
<i>Dictyosphaerium</i>		12	<i>Rhizosolenia</i>		28		
<i>Schroederia</i>		6	<i>Athya</i>		6		
<i>Scenedesmus</i>		49					
<i>Planktonema</i>		94				TOTAL →	43
<i>Monoraphidium</i>		36					
<i>Cosmarium</i>		81					
<i>Tetrastrum</i>		5					
<i>Golenkinia</i>		7					
<i>Chodatella</i>		6					
<i>Crucigenia</i>		4					
TOTAL →		470	TOTAL →		1572		

REMARKS:

SIGNED: Ag Standke

OR TOTAL CUBIC MICRONS PER ML → 5308 x 10<sup>3</sup>

## PLANKTON ANALYSIS

FILE NUMBER

SAMPLE NUMBER

5-0

83-2521

Municipality Kent County

Date Analysed June 12. 84 Date Sampled Sept. 11. 83

Source Lake Erie - Rondeau Bay

Enumeration Procedure 2R, \* 1/2R, \*\* 1R

Station H 10 Depth           

Mic Factor 85.3260 Concentration Factor 281.57

CYANOPHYCEAE			DINOPHYCEAE			CHRYSTOPHYCEAE		
Lyngbya	*	2128	Unidentified Dinophyceae		108	Dinobryon		43
Oscillatoria	**	2299				Unidentified Chrysophyceae		7
Aphanizomenon		773				Chrysochromulina parva		3
Coelosphaerium		32						
Microcystis		12	TOTAL →		108			
			CRYPTOPHYCEAE		43			
			Katablepharis		6			
			Rhodomonas		15			
			Cryptomonas		287			
			TOTAL →		308			
			EUGLENOPHYCEAE		43			
			Euglena		32			
			Phacus		43			
TOTAL →		5244	TOTAL →		75	TOTAL →		53

[illegible]

SIGNED: D. J. Standke

OR

TOTAL CUBIC MICRONS PER ML

$$8855 \times 10^3$$

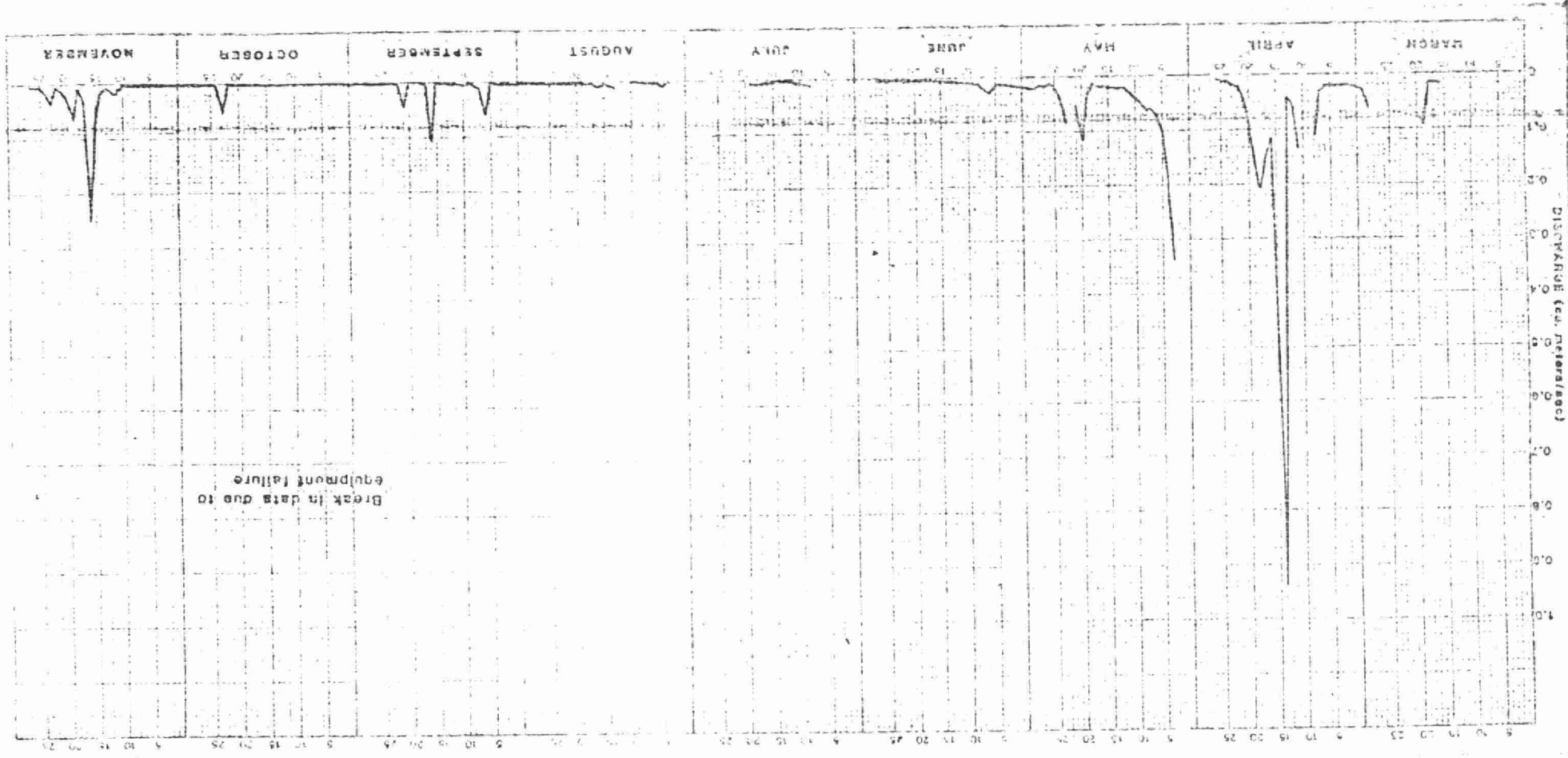
MOE 0899 6/82

Mean Daily Discharge (m<sup>3</sup>/sec) - 1983

JOHN CLARK DRAIN NEAR ERIEAU

<u>Day</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>Sept.</u>	<u>Oct</u>	<u>Nov</u>
1	--	0.022	--	0.019	--	--	0.002	0.001	0.001
2	--	0.022	--	0.017	--	--	0.002	0.001	0.001
3	--	0.022	0.340	0.015	--	0.007	0.002	0.001	0.002
4	--	0.022	0.201	0.017	--	0.013	0.002	0.001	0.002
5	--	0.021	0.104	0.017	--	0.005	0.002	0.001	0.001
6	--	0.023	0.076	0.032	--	0.004	0.060	0.001	0.001
7	--	0.308	0.062	0.023	--	0.004	0.012	0.001	0.001
8	--	0.111	0.065	0.017	0.015	0.003	0.003	0.001	0.001
9	--	--	0.057	0.013	0.013	0.001	0.003	0.001	0.001
10	--	--	0.045	0.011	0.011	0.002	0.003	0.001	0.001
11	--	0.139	0.031	0.010	0.009	--	0.003	0.001	0.018
12	--	0.066	0.025	0.009	0.007	--	0.003	0.000	0.011
13	--	0.044	0.023	0.008	0.005	0.014	0.002	0.000	0.005
14	--	0.939	0.022	0.007	0.005	0.008	0.002	0.000	0.016
15	--	0.334	0.022	0.007	0.007	0.005	0.001	0.000	0.066
16	0.018	0.117	0.021	0.006	0.008	0.012	0.106	0.000	0.245
17	0.017	0.156	0.019	0.005	0.009	0.008	0.005	0.000	0.036
18	0.016	0.211	0.014	0.005	0.009	0.006	0.002	0.000	0.005
19	0.096	0.163	0.041	0.005	0.010	0.005	0.002	0.000	0.063
20	0.074	0.099	0.118	0.005	--	0.004	0.002	0.000	0.033
21	--	0.048	0.056	0.005	--	0.003	0.045	0.000	0.011
22	--	0.025	--	0.004	--	0.003	0.002	0.001	0.004
23	--	0.021	0.085	0.004	--	0.003	0.002	0.054	0.036
24	--	0.017	0.044	0.004	--	0.003	0.002	0.003	0.015
25	--	0.014	0.020	0.004	--	0.003	0.002	0.002	0.003
26	--	0.011	0.016	0.004	--	0.003	0.001	0.001	0.002
27	--	--	0.019	0.004	--	0.002	0.001	0.001	0.002
28	--	--	0.019	--	--	0.002	0.001	0.001	--
29	0.065	--	0.023	--	--	0.002	0.001	0.001	--
30	0.032	--	0.022	--	--	0.002	0.001	0.001	--
31	0.024	--	0.020	--	--	0.003	--	0.001	--

JOHN CLARK DRAIN NEAR ENIEAU - 02GF103 1983



Routine Sub-surface Grab Samples

JOHN CLARK DRAIN - 16-0044-001-02

Date	Temp °C	Bacteria/100 ml		Phosphorus		Nitrogens				Cl	Cond	Turb	pH	S.S.
		Fecal Coliform	Fecal Strep	Total	Sol	F.A.	Kjel	Nitrite	Nitrate					
Jan 24	1.0	70	260	0.124	0.039	0.125	0.830	0.041	7.21	32.0	660	55	7.88	114.6
Feb 28	7.0	456	10	0.059	0.038	0.080	0.770	0.049	10.4	36.5	740	4.6	7.93	5.5
March 10	3.5	240	30	0.077	0.018	0.020	0.730	0.033	11.2		610	14.8	7.90	16.4
March 15	7.0	2900	10	0.039	0.020	0.005	0.590	0.039	10.6		750	4.3	8.25	5.2
March 21	6.0	40	110	0.055	0.020	0.035	0.640	0.029	11.4		700	15.8	8.03	15.7
March 28	4.0	80	6600	0.228	0.058	0.045	1.480	0.145	12.1	29.0	615	87	7.97	111.8
April 6	6.0	20	12	0.037	0.010	0.005	0.560	0.028	10.7		750	7.7	8.16	11.3
April 11	6.0	560	130	0.224	0.086	0.060	1.460	0.034	12.8		630	112	7.83	73.2
April 13	6.0	760	52	0.091	0.041	0.070	0.720	0.056	12.6		805	30	7.90	28.2
April 14	7.0			1.830	0.115	0.115	5.650	0.088	7.4		386		7.73	1478.8
April 18	5.0	61500	28	0.110	0.052	0.045	0.790	0.022	11.9		635	52	7.84	44.1
April 25	14.0	100	10	0.038	0.024	0.010	0.600	0.043	10.6	34.0	705	5.7	8.33	7.8
May 24	21.0	196	88	0.066	0.018	0.010	0.610	0.027	12.1	28.5	700	19.2	7.98	15.1
June 27	29.0	110	160	0.059	0.034	0.025	0.800	0.167	2.6	31.5	600	13.2	8.21	11.8
July 25	30.0	6600	6600	0.042	0.009	0.035	0.680	0.022	0.44	43.5	585	11.7	8.34	10.9
Aug 22	26.0	210	610	0.046	0.001	0.015	0.960	0.050	1.01	31.0	590	6.9	8.13	8.4
Sept 26	19.0			0.070	0.037	0.400	0.560	0.047	2.95	33.0	650	21	8.32	20.6
Oct 24	12.0			0.260	0.127	0.055	1.420	0.062	11.2	34.0	650	67	7.87	51.4
Nov 28	7.0			1.800	0.560	0.260	4.900	0.122	5.48	36.0	315	1360	7.49	751.0

All results in mg/l other than turbidity in FTU and others as shown

Routine and Storm Event Samples (Integrated)

RONDEAU BAY STUDY, 1983

John Clark Drain  
16-0044-001-02

Date	Time	Flow (cms)	S.S. (mg/l)
March 15	1105	0.02	4.8
21	0940	0.047	19.4
28	--	0.022	94.9
April 6	1025	0.02	10.8
11	1000	0.144	106.3
13	1120	0.047	37.6
14	0924	1.08	--
18	0955	0.092	30.6
25	1301	0.011	10.3
May 3	1040	0.194	83.0
3	1200	0.217	117.5
3	1340	0.270	193.7
3	1800	0.605	405.1
3	1910	0.495	309.4
3	2045	0.438	248.1
3	2250	0.323	141.0
4	0140	0.27	163.7
4	1130	0.169	78.9
19	0915	0.019	44.5
19	1154	0.019	38.1
19	1400	0.032	54.2
19	2355	0.323	2446.1
20	0130	0.230	1454.9
20	0605	0.136	238.7
20	1020	0.092	122.9
22	0850	0.522	13417.6
22	0943	0.660	6320.8
22	2110	0.136	154.6
23	0010	0.120	136.6
23	0740	0.092	65.5
23	1030	0.077	65.5
June 5	1420	0.015	14.7
6	0914	0.032	165.2
6	1017	0.032	261.8
6	1158	0.032	269.1
6	1322	0.047	247.9
6	1432	0.047	313.2
28	0920	0.077	671.8
28	1050	0.953	2337.0
28	1245	G2.38	1652.0
28	1400	G2.38	1085.8
28	1515	2.02	609.8
28	1700	1.49	330.9
28	1904	1.05	220.0
28	2103	0.715	169.7
28	2300	0.495	151.3

G = Greater Than

Routine and Storm Event Samples (Integrated)

RONDEAU BAY STUDY, 1983

John Clark Drain  
16-0044-001-02

Date	Time	Flow (cms)	S.S. (mg/l)
July 29	0935	--	10831.8
29	1155	--	9422.0
29	1320	--	2854.2
29	1430	2.37	2296.1
30	1015	--	137.5
Aug 11	1050	2.4E	9632.6
11	1215	2.18	4918.6
11	1410	1.46	1770.3
11	1529	0.89	1297.2
11	1230	0.062	--
Sept 16	0930	0.077	102.0
16	1029	0.003	198.1
16	1137	0.004	--
16	1415	0.743	16056.8
16	1430	1.74	12278.4
16	1455	1.22	9717.4
16	1745	0.194	9191.6
16	2000	0.169	2065.6
16	2115	0.077	897.4
16	2240	0.025	739.1
17	0035	0.011	535.7
17	0220	0.007	371.8
17	0740	0.004	205.3
Oct 5	--	--	10.1
Nov 16	1000	--	343.0
16	1135	0.380	389.7
16	1257	0.217	498.1
16	1425	0.194	368.3
16	1530	0.178	341.2
16	1630	0.161	298.6
16	1820	0.161	300.9
Nov 23	1440	0.007	252.1
23	1555	0.022	936.4
23	1700	0.032	1109.0
23	1745	0.070	1495.1
23	1830	0.127	1314.5
23	1915	0.180	1106.4
23	2000	0.182	848.4
23	2045	0.155	778.5
23	2130	0.125	675.1
23	2215	0.097	665.0
23	2300	0.073	540.3
23	2345	0.061	473.5

G = Greater Than



Routine and Storm Event Samples (Integrated)

RONDEAU BAY STUDY, 1983

John Clark Drain  
16-0044-001-02

Date	Time	Flow (cms)	S.S. (mg/l)
Nov 24	0030	0.051	393.0
24	0115	0.041	321.8
24	0200	0.032	302.1
24	0245	0.024	262.6
24	0330	0.022	254.7
24	0415	0.021	217.2
24	0500	0.019	283.1
24	0545	0.018	245.6
24	0630	0.017	215.7
24	0715	0.016	183.1
24	0800	0.015	248.2
24	0845	0.014	205.4
24	0930	0.013	159.9
24	1015	0.013	118.6
24	1050	0.012	78.2
Dec 6	0944	1.77	3140.5
6	1112	1.74	2644.9
6	1254	1.25	1650.3
6	1358	1.15	1225.3
6	1502	0.953	--

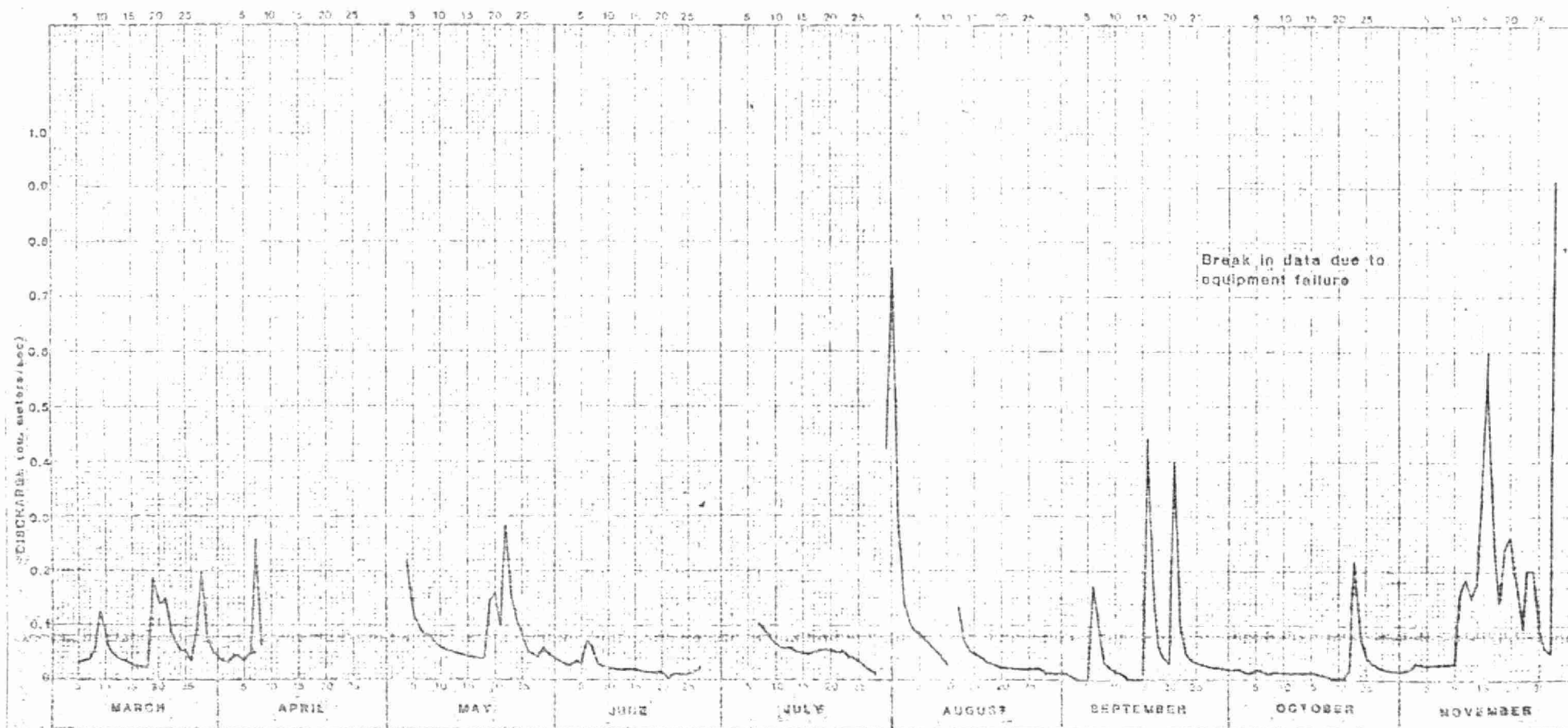
G = Greater Than

Mean Daily Discharge (m<sup>3</sup>/sec) - 1983

COLEMAN DRAIN NEAR NEW SCOTLAND 02GF101

<u>Day</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>Sept.</u>	<u>Oct</u>	<u>Nov</u>
1	--	0.037	--	0.036	--	0.302	0.010	0.021	0.020
2	--	0.036	--	0.031	--	0.150	0.005	0.021	0.024
3	--	0.045	--	0.029	--	0.112	0.002	0.018	0.035
4	--	0.042	0.214	0.035	--	0.093	0.002	0.017	0.031
5	0.030	0.037	0.131	0.031	--	0.085	0.001	0.022	0.030
6	0.033	0.052	0.101	0.076	--	0.076	0.174	0.018	0.030
7	0.036	0.259	0.088	0.061	0.108	0.067	0.095	0.015	0.031
8	0.056	0.067	0.086	0.037	0.091	0.059	0.033	0.016	0.031
9	0.121	--	0.071	0.028	0.079	0.043	0.023	0.016	0.032
10	0.074	--	0.062	0.023	0.068	0.030	0.017	0.014	0.035
11	0.052	--	0.057	0.021	0.060	--	0.014	0.013	0.151
12	0.041	--	0.054	0.021	0.062	0.137	0.008	0.013	0.186
13	0.036	--	0.050	0.022	0.059	0.076	0.003	0.014	0.153
14	0.034	--	0.049	0.022	0.053	0.057	0.002	0.016	0.178
15	0.028	--	0.046	0.021	0.050	0.049	0.001	0.014	0.388
16	0.024	--	0.043	0.019	0.050	0.042	0.447	0.012	0.607
17	0.023	--	0.040	0.016	0.053	0.037	0.195	0.011	0.274
18	0.023	--	0.042	0.016	0.056	0.033	0.065	0.009	0.148
19	0.185	--	0.147	0.014	0.058	0.028	0.042	0.007	0.239
20	0.140	--	0.162	0.014	0.057	0.024	0.033	0.006	0.266
21	0.147	--	0.101	0.006	0.052	0.022	0.403	0.006	0.172
22	0.093	--	0.283	0.011	0.055	0.022	0.099	0.022	0.098
23	0.071	--	0.160	0.015	0.047	0.022	0.053	0.221	0.206
24	0.046	--	0.109	0.011	0.043	0.022	0.040	0.082	0.207
25	0.045	--	0.084	0.013	0.034	0.022	0.034	0.047	0.095
26	0.034	--	0.056	0.013	0.027	0.023	0.031	0.036	0.063
27	0.099	--	0.048	0.027	0.020	0.021	0.029	0.029	0.051
28	0.198	--	0.044	--	0.016	0.017	0.026	0.024	0.916
29	0.078	--	0.060	--	--	0.013	0.024	0.021	--
30	0.051	--	0.049	--	0.423	0.015	0.022	0.020	--
31	0.043	--	0.041	--	0.754	0.019	--	0.020	--

# COLEMAN DRAIN NEAR NEW SCOTLAND - 02GF101 1983



Routine Sub-Surface Grab Samples

COLEMAN DRAIN - 16-0051-001-02

Date	Temp °C	Bacteria/100 ml		Phosphorus		Nitrogens				Cl	Cond	Turb	pH	S.S.
		Fecal Coliform	Fecal Strep	Total	Sol	F.A.	Kjel	Nitrite	Nitrate					
Jan 24	1.0	3600	5500	0.095	0.033	0.375	0.920	0.054	9.2	35.5	765	34.0	7.90	33.8
Feb 28	7.0	20	10	0.037	0.010	0.020	0.690	0.012	7.1	20.5	740	20.0	8.09	22.2
March 10	3.5	120	700	0.057	0.008	0.020	0.720	0.014	7.09		760	21.0	7.84	18.0
March 15	6.0	100	50	0.020	0.003	0.010	0.620	0.014	6.24		740	10.9	8.31	14.7
March 21	6.0	490	G1500	0.160	0.038	0.145	1.520	0.021	8.03		645	65.0	8.05	84.6
March 28	4.0	216	280	0.314	0.022	0.035	3.60	0.106	11.5	24.0	680	109.0	7.89	123.8
April 6	6.0	G600	392	0.040	0.005	0.005	0.007	0.016	6.7		770	9.8	8.16	10.5
April 11	6.0	190	230	0.196	0.036	0.070	1.46	0.034	10.0		640	139.0	7.94	112.6
April 13	6.5	940	G1500	0.136	0.031	0.060	1.10	0.036	8.6		680	66.0	7.93	72.7
April 14	8.0			1.530	0.145	0.145	4.95	0.096	7.4		349		7.62	1243.5
April 18	6.0	250	130	0.082	0.015	0.015	0.710	0.014	8.4		685	39.0	7.96	44.8
April 25	13.0	20	140	0.025	0.005	0.030	0.700	0.170	2.1	14.5	655	14.7	8.36	16.9
May 24	20.0	G600	236	0.082	0.020	0.035	0.830	0.033	7.4	19.5	710	37.0	7.91	34.1
June 27	27.0	600	1100	0.123	0.054	0.015	0.820	0.084	3.9	13.5	630	66.0	8.10	57.2
July 25	25.0	1090	890	0.070	0.025	0.025	1.16	0.032	4.9	13.5	610	56.0	8.31	46.8
Aug 22	24.0	2400	150	0.072	0.025	0.020	0.980	0.051	4.2	14.0	635	37.0	8.24	24.8
Sept 26	17.0			0.041	0.021	0.200	0.650	0.017	4.28	17.0	745	15.0	8.13	13.5
Oct 24	12.0			0.102	0.040	0.055	1.09	0.051	7.6	25.0	735	31.0	7.87	26.1
Nov 28	7.5			1.230	0.310	0.160	3.70	0.098	5.4	28.5	397	920.0	7.56	475.4

All results in mg/l other than turbidity in FTU and others as shown

Routine and Storm Event Samples (Integrated)

RONDEAU BAY STUDY, 1983

Coleman Drain  
16-0051-001-02

Date	Time	Flow (cms)	S.S. (mg/l)
March 15		0.027	6.3
21	1106	0.159	73.3
28			127.6
April 6	1115	0.044	4.6
11	1150	0.198	136.1
13	1233	0.146	77.9
14	1148	1.47	--
18	1125	0.120	43.0
25	1410	0.031	14.5
May 3	1130	0.251	202.9
3	1300	0.251	165.1
3	1435	0.305	215.0
3	1740	0.438	320.6
3	1845	0.421	300.9
3	2020	0.379	248.4
3	2225	0.331	183.7
4	0115	0.285	118.9
4	1150	0.211	75.1
19	1126	0.072	551.0
19	1316	0.096	303.4
19	1445	0.147	856.0
20	0045	0.259	442.1
20	0200	0.213	285.4
20	0650	0.154	88.5
20	1050	0.128	56.1
22	0925	0.406	3015.6
22	1010	0.657	2193.2
22	1955	0.206	177.9
22	2335	0.167	93.5
23	0705	0.134	51.1
23	1005	0.122	56.8
June 5	1500	0.032	20.3
6	1006	0.060	187.7
6	1130	0.084	269.8
6	1300	0.108	191.3
6	1421	0.121	217.3
6	1522	0.108	234.6
28	1015	3.0E	2203.0
28	1230	4.0E	989.6
28	1345	4.1E	641.0
28	1445	3.5E	457.6
28	1545	3.3E	406.6
28	1730	2.5E	355.3
28	1935	1.01	318.6
28	2120	0.89	298.1
28	2330	--	256.8

E = Estimate

Routine and Storm Event Samples (Integrated)

RONDEAU BAY STUDY, 1983

Coleman Drain  
16-0051-001-02

Date	Time	Flow (cms)	S.S. (mg/l)
July 29	1045	6.0E	3658.0
29	1300	5.5E	1258.9
29	1400	4.5E	1367.9
29	1520	4.1E	1094.3
30	1000	--	99.1
Aug 11	1130	3.1E	2053.2
11	1335	2.5E	873.8
11	1445	1.80	724.1
11	1606	1.15	754.7
12	1355	--	--
Sept 16	1000	0.032	207.8
16	1115	0.032	193.5
16	1302	0.041	148.6
16	1420	1.52	4562.4
16	1700	1.76	3639.2
16	1915	1.27	1516.2
16	2050	0.861	1255.4
16	2210	0.592	997.2
17	0010	0.406	736.8
17	0155	0.333	549.0
17	0710	0.213	305.1
Oct 5	--	--	40.0
Nov 16	1106	0.481	143.2
16	1232	0.457	123.8
16	1333	0.423	124.5
16	1509	0.389	126.3
16	1617	0.389	108.2
16	1754	0.346	106.3
16	1853	0.319	112.1
Nov 23	1523	0.213	234.8
23	1634	0.333	452.5
23	1755	0.410	434.2
23	1840	0.467	390.4
23	1925	0.544	330.4
23	2010	0.526	289.8
23	2055	0.496	286.8
23	2140	0.458	224.1
23	2225	0.420	195.2
23	2310	0.402	147.9
23	2355	0.775	122.2

E = Estimate

Routine and Storm Event Samples (Integrated)

RONDEAU BAY STUDY, 1983

Coleman Drain  
16-0051-001-02

Date	Time	Flow (cms)	S.S. (mg/l)
Nov 24	0040	0.353	114.1
24	0125	0.332	110.4
24	0210	0.319	101.9
24	0255	0.306	92.0
24	0340	0.294	73.7
24	0425	0.281	73.2
24	0510	0.269	66.1
24	0555	0.256	58.8
24	0640	0.244	61.7
24	0725	0.234	54.1
24	0810	0.227	51.0
24	0855	0.219	51.5
24	0940	0.211	47.1
24	1025	0.204	46.4
24	1110	0.196	38.3
24	1130	0.194	45.0
Dec 6	1020	--	1070.1
6	1145	--	854.0
6	1340	--	674.6
6	1443	--	517.7
6	1535	--	--

E = Estimate

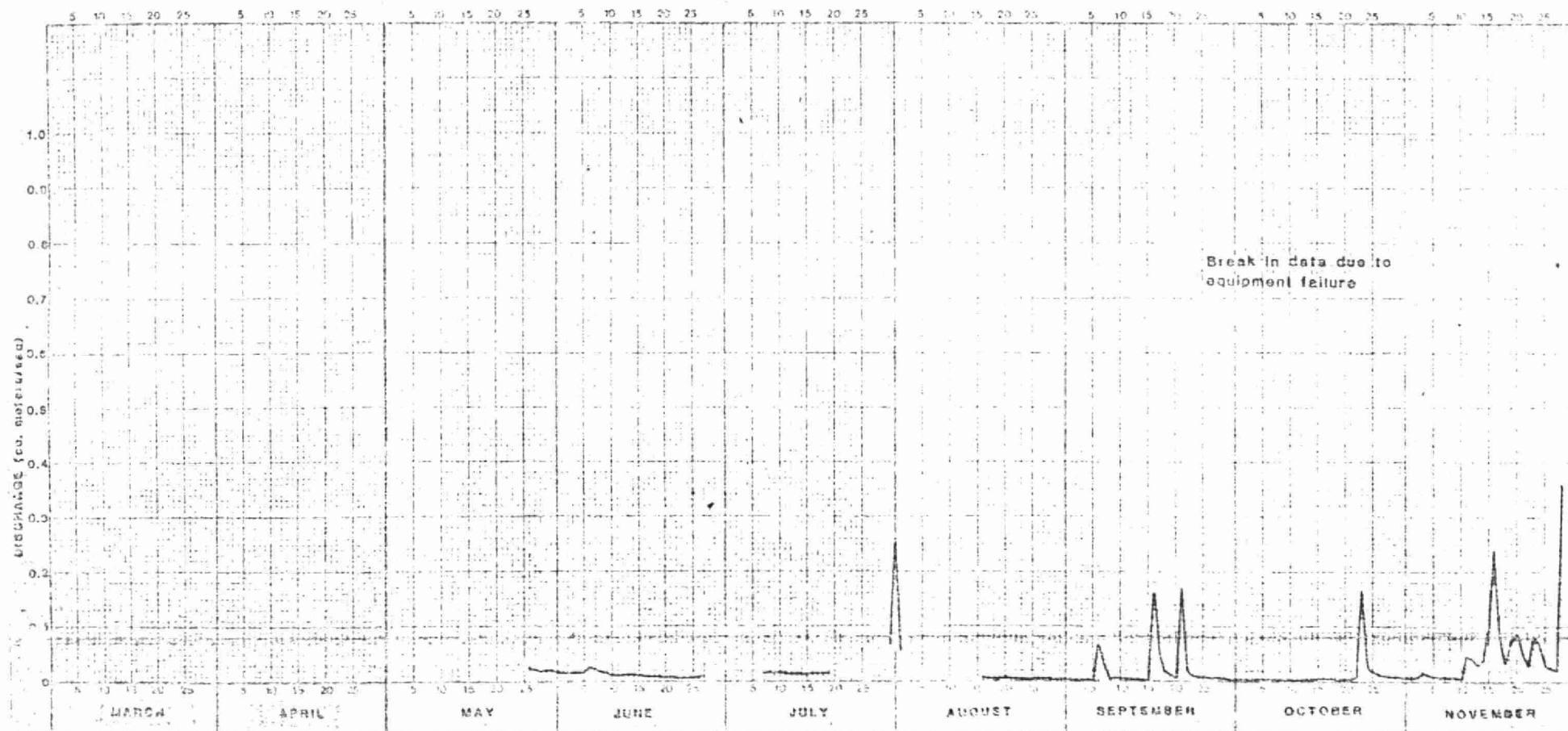


Mean Daily Discharge (m<sup>3</sup>/sec) - 1983

Hubbard Drain near Guilds 02GF102

<u>Day</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug</u>	<u>Sept</u>	<u>Oct</u>	<u>Nov</u>
1	--	0.017	--	0.054	0.001	0.002	0.007
2	--	0.016	--	--	0.001	0.002	0.009
3	--	0.017	--	--	0.001	0.002	0.020
4	--	0.018	--	--	0.001	0.002	0.012
5	--	0.017	--	--	0.001	0.004	0.010
6	--	0.026	--	--	0.065	0.003	0.008
7	--	0.023	0.018	--	0.031	0.002	0.008
8	--	0.017	0.018	--	0.007	0.003	0.007
9	--	0.014	0.016	--	0.005	0.004	0.007
10	--	0.011	0.014	--	0.004	0.003	0.007
11	--	0.011	0.013	--	0.003	0.003	0.045
12	--	0.012	0.013	--	0.003	0.003	0.042
13	--	0.012	0.013	--	0.003	0.003	0.031
14	--	0.012	0.013	--	0.003	0.005	0.037
15	--	0.011	0.013	--	0.003	0.005	0.096
16	--	0.010	0.014	0.006	0.159	0.004	0.096
17	--	0.009	0.015	0.005	0.045	0.004	0.082
18	--	0.008	0.016	0.005	0.018	0.004	0.037
19	--	0.008	0.015	0.005	0.011	0.003	0.076
20	--	0.008	--	0.005	0.008	0.003	0.085
21	--	0.007	--	0.004	0.170	0.004	0.051
22	--	0.007	--	0.004	0.021	0.010	0.031
23	--	0.007	--	0.004	0.011	0.164	0.079
24	--	0.007	--	0.003	0.007	0.028	0.068
25	--	0.007	--	0.003	0.006	0.018	0.031
26	0.024	0.007	--	0.003	0.005	0.013	0.024
27	0.021	0.010	--	0.002	0.004	0.010	0.022
28	0.019	--	--	0.002	0.003	0.010	0.357
29	0.023	--	--	0.001	0.003	0.008	--
30	0.020	--	0.068	0.002	0.002	0.007	--
31	0.018	--	0.252	0.002	--	0.007	--

# HUBBARD DRAIN NEAR GUILDS - 02GF102 1983



Routine Sub-surface Grab Samples

HUBBARD DRAIN - 16-0050-002-02

Date	Temp °C	Bacteria/100 ml		Phosphorus		Nitrogens				Cl	Cond	Turb	pH	S.S.
		Fecal Coliform	Fecal Strep	Total	Sol	F.A.	Kjel	Nitrite	Nitrate					
Jan 24	1.0	1900	380	0.064	0.002	0.095	0.940	0.025	6.53	17.0	700	30.0	7.92	52.1
Feb 28	7.0	110	60	0.073	0.014	0.800	1.080	0.019	9.70	35.5	810	28.0	7.82	36.0
March 10	3.5	950	140	0.060	0.010	0.020	0.650	0.021	7.98		750	16.8	8.00	18.0
March 15	6.0	190	90	0.032	0.005	0.010	0.560	0.032	8.20		770	14.9	8.32	21.6
March 21	6.0	G1500	740	0.077	0.018	0.060	0.740	0.016	8.13		700	34.0	7.98	30.7
March 28	5.5	G600	224	0.210	0.029	0.035	1.320	0.079	10.20	26.5	660	111.0	7.81	107.2
April 6	6.0	224	532	0.034	0.010	0.035	0.620	0.026	8.00		810	10.1	8.11	11.2
April 11	6.0	G1500	160	0.112	0.030	0.060	0.880	0.018	10.60		705	63.0	8.02	48.1
April 13	7.0	690	130	0.055	0.019	0.055	0.620	0.030	10.50		740	23.0	7.86	17.9
April 14	7.0			2.35	0.190	0.150	5.130	0.096	5.50		385		7.65	1138.1
April 18	6.0	70	320	0.066	0.018	0.050	0.650	0.009	11.80		780	25.0	7.69	30.3
April 25	12.0	20	10	0.085	0.007	0.040	0.800	0.026	9.20	31.0	730	36.0	8.24	55.5
May 24	20.0	G600	560	0.064	0.037	0.085	0.700	0.057	11.70	35.0	765	8.9	8.28	9.6
June 27	29.0	560	70	0.240	0.068	0.045	1.900	0.010	4.80	34.0	650	87.0	7.69	96.6
July 25	26.0	G1500	G600	0.086	0.046	0.040	0.820	0.083	11.90	30.0	600	13.7	8.35	17.7
Aug 22	23.5	2100	270	0.054	0.020	0.025	0.610	0.074	12.50	29.5	680	15.3	8.26	10.1
Sept 26	17.0			0.109	0.051	0.150	0.570	0.068	10.70	35.0	785	46.0	8.18	57.6
Oct 24	12.0			0.113	0.047	0.085	0.890	0.049	9.70	33.5	750	34.0	7.95	24.7
Nov 28	7.0			1.43	0.370	0.300	4.500	0.120	4.60	37.5	380	1140.0	7.50	507.3

All results in mg/l other than turbidity in FTU and others as shown

Routine and Storm Event Samples (Integrated)

RONDEAU BAY STUDY, 1983

Hubbard Drain  
16-0050-002-02

Date	Time	Flow (cms)	S.S. (mg/l)
May 19	1115	0.028	98.3
19	1255	0.040	81.1
19	1425	0.054	509.1
20	0025	0.074	548.2
20	0145	0.065	171.5
20	0630	0.051	58.8
20	1035	0.042	30.2
22	0910	0.249	4741.2
22	0957	0.445	4934.4
22	2030	0.074	75.5
22	2350	0.065	43.7
23	0720	0.048	33.9
23	1015	0.042	26.2
June 5	1445	0.017	14.2
6	0948	0.024	47.3
6	1103	0.034	142.5
6	1210	0.040	143.5
6	1343	0.040	313.2
6	1507	0.040	204.2
28	0955	G0.70	3754.8
28	1215	G0.70	1154.2
28	1330	G0.70	769.2
28	1425	G0.70	684.4
28	1530	G0.70	451.2
28	1555	G0.70	437.7
28	1722	0.513	344.2
28	1925	0.377	207.9
28	2130	0.252	155.3
28	2320	0.201	133.6
July 29	1025	G0.70	5631.0
29	1220	G0.70	1782.7
29	1335	G0.70	1455.6
29	1500	G0.70	1075.1
Aug 11	1100	G0.70	3466.4
11	1300	G0.70	1086.3
11	1423	0.433	576.8
11	1548	0.224	403.0
Sept 16	0940	0.010	123.2
16	1055	0.013	121.5
16	1250	0.013	81.3
16	1540	0.221	1188.8
16	1710	0.538	2961.6
16	1730	0.490	2679.2
16	1945	0.490	1401.2

G = Great Than

Hubbard Drain - continued

Date	Time	Flow (cms)	S.S. (mg/l)
Sept 16	2100	0.377	751.6
16	2225	0.241	403.6
17	0020	0.108	233.7
17	0205	0.074	157.5
17	0725	0.040	105.0
Nov 16	1025	0.204	128.2
16	1159	0.201	131.6
16	1317	0.201	116.5
16	1440	0.170	119.4
16	1556	0.144	110.0
16	1735	0.144	89.4
16	1840	0.125	118.9
23	1510	0.074	319.7
23	1620	0.153	387.9

ENVIRONMENT ONTARIO, TORONTO  
MARCH 1984.

TRIBUTARY: JOHN CLARK CR BASIN: RONDEAU BAY JURISDICTION: ONTARIO YEAR: 1983 PARAMETER: SJSP SOLIDS

STRATUM 1 THE UPPER FLOW CUT OFF IS 0.300 CMS  
THE NUMBER OF DAYS IN THE STRATUM = 3

LOADINGS		FLOWS		CONCENTRATIONS
KG/DAY	LBS/DAY	M3/SEC	CFS	MG/LITER
12794.6	28239.9	0.380	13.4	389.700
1997415.9	4406649.9	2.400	84.8	9632.600
926428.1	2044781.3	2.180	77.0	4918.600
223312.7	492888.4	1.460	51.6	1770.300
99749.5	220163.8	0.890	31.4	1297.200
1030769.5	2275080.1	0.743	26.2	16056.800
1845885.5	4074177.0	1.740	61.4	12278.400
1024291.7	2260782.5	1.220	43.1	9717.400
33870.7	74758.3	0.522	18.4	751.000

MEAN OF SAMPLED FLOWS = 1.282 M3/SEC.  
MEAN OF SAMPLED CONC = 6312.444 MG/L.  
THE FLOW WEIGHTED SAMPLE CONCENTRATION = 7218.839 MG/L.

THE MEAN SAMPLE LOADING = 799390.9 KG/DAY.  
THE BIASED RATIO ESTIMATE = 473397.4 KG/DAY.  
THE APPROXIMATELY UNBIASED RATIO ESTIMATE = 477595.3 KG/DAY. THE CORRECTION FOR BIAS OF THIS ESTIMATE IS 4197.8 KG/DAY.  
THE RATIO OF MEAN STRATUM FLOW TO MEAN SAMPLE FLOW IS 0.59, BASED ON VALUES OF 0.76 AND 1.28 M3/SEC, RESPECTIVELY.

THE ESTIMATED MEAN STRATUM LOADING IS THEREFORE 477595.3 KILOGRAMS/DAY + OR - 106887.2

THESE ESTIMATES ARE BASED ON 8 DEGREES OF FREEDOM.

THE SUM-OF-SQUARES-ERROR, WHICH IS THE ANALOG TO THE ESTIMATED VARIANCE OF THE POPULATION,  
IS 1028238/1372.000 (KG/DAY)<sup>2</sup> OR 13698710263.5000 (TONS/YEAR)<sup>2</sup>.

ENVIRONMENT ONTARIO, TORONTO  
MARCH 1984.

TRIBUTARY: JOHN CLARK CR BASIN: RONDEAU BAY JURISDICTION: ONTARIO YEAR: 1983 PARAMETER: SS/SP SOLIDS

STRATON 2 THE UPPER FLOW CUT OFF IS 0.100 CMS  
THE NUMBER OF DAYS IN THE STRATON = 2

LOADINGS		FLOWS		CONCENTRATIONS
KG/DAY	LBS/DAY	M3/SEC	CFS	MG/LITER
154065.9	340049.2	0.194	6.9	9191.600
30161.1	66570.5	0.169	6.0	2055.000
9336.6	20612.2	0.217	7.7	498.100
6173.3	13625.5	0.194	6.9	368.300
5247.4	11561.0	0.178	6.3	341.200
4153.6	9167.8	0.161	5.7	298.600
4185.6	9236.4	0.161	5.7	300.900
14423.7	31835.6	0.127	4.5	1314.500
17206.7	37978.1	0.180	6.4	1106.400
13340.9	29445.6	0.182	6.4	848.400
10425.7	23011.2	0.155	5.5	778.500
7291.1	16092.6	0.125	4.4	675.100
				MEAN OF SAMPLED FLOWS = 0.170 M3/SEC.
				MEAN OF SAMPLED CONC = 1482.267 MG/L.
				THE FLOW WEIGHTED SAMPLE CONCENTRATION = 1563.683 MG/L.

THE MEAN SAMPLE LOADING = 23001.2 KG/DAY. THE MEAN STRATON FLOW = 0.18 M3/SEC OR 6.2 CFS.  
THE BIASED RATIO ESTIMATE = 23778.0 KG/DAY.  
THE APPROXIMATELY UNBIASED RATIO ESTIMATE = 23884.3 KG/DAY. THE CORRECTION FOR BIAS OF THIS ESTIMATE IS 106.3 KG/DAY.  
THE RATIO OF MEAN STRATON FLOW TO MEAN SAMPLE FLOW IS 1.03, BASED ON VALUES OF 0.18 AND 0.17 M3/SEC, RESPECTIVELY.

THE ESTIMATED MEAN STRATON LOADING IS THEREFORE 23884.3 KILOGRAMS/DAY \* OR - 12325.3

THESE ESTIMATES ARE BASED ON 11 DEGREES OF FREEDOM.

THE SUM-OF-SQUARES-ERROR, WHICH IS THE ANALOG TO THE ESTIMATED VARIANCE OF THE POPULATION, IS 1823069784.000 (KG/DAY)<sup>2</sup> OR 242881136.5630 (TONS/YEAR)<sup>2</sup>.



ENVIRONMENT ONTARIO, TORONTO  
MARCH 1984.

TRIBUTARY: JOHN CLARK CR BASIN: RONDEAU BAY JURISDICTION: ONTARIO YEAR: 1983 PARAMETER: SS/SP SOLIDS

STRATUM 3 THE UPPER FLOW CUT OFF IS 0.030 CFS  
THE NUMBER OF DAYS IN THE STRATUM = 8

LOADINGS		FLOWS		CONCENTRATIONS
KG/DAY	LBS/DAY	M3/SEC	CFS	MG/LITER
678.6	1497.8	0.077	2.7	102.000
5970.2	13177.3	0.077	2.7	897.400
1096.5	3523.6	0.025	0.9	739.100
3066.2	6767.5	0.032	1.1	1109.000
9042.4	19951.0	0.070	2.5	1495.100
5573.2	12301.1	0.097	3.4	665.000
3407.8	7521.5	0.073	2.6	540.300
2495.5	5508.1	0.061	2.2	473.500
1731.7	3842.2	0.051	1.8	393.000
1139.9	2516.0	0.041	1.4	321.800
639.2	1443.5	0.032	1.1	302.100

MEAN OF SAMPLED FLOWS = 0.058 M3/SEC.  
MEAN OF SAMPLED CONC = 639.845 MG/L.  
THE FLOW WEIGHTED SAMPLE CONCENTRATION = 646.715 MG/L.

THE MEAN SAMPLE LOADING = 3230.7 KG/DAY.  
THE BIASED RATIO ESTIMATE = 2737.9 KG/DAY.  
THE APPROXIMATELY UNBIASED RATIO ESTIMATE = 2742.0 KG/DAY. THE CORRECTION FOR BIAS OF THIS ESTIMATE IS 4.0 KG/DAY.  
THE RATIO OF MEAN STRATUM FLOW TO MEAN SAMPLE FLOW IS 0.85, BASED ON VALUES OF 0.05 AND 0.06 M3/SEC, RESPECTIVELY.

THE ESTIMATED MEAN STRATUM LOADING IS THEREFORE 2742.0 KILOGRAMS/DAY + OR - 568.3

THESE ESTIMATES ARE BASED ON 10 DEGREES OF FREEDOM.

THE SUM-OF-SQUARES-ERROR, WHICH IS THE ANALOG TO THE ESTIMATED VARIANCE OF THE POPULATION, IS 3552754.193 (KG/DAY)<sup>2</sup> OR 473315.6773 (TONS/YEAR)<sup>2</sup>.

ENVIRONMENT ONTARIO, TORONTO  
MARCH 1984.

TRIBUTARY: JOHN CLARK CR BASIN: RONDEAU BAY JURISDICTION: ONTARIO YEAR: 1983 PARAMETER: SUSP SOLIDS

STRATUM 4  
THE NUMBER OF DAYS IN THE STRATUM = 105

LOADINGS		FLOW		CONCENTRATIONS
KG/DAY	LBS/DAY	M3/SEC	CFS	MG/LITER
2.9	6.4	0.004	0.1	8.400
1.8	3.9	0.001	0.0	20.600
17.8	39.2	0.004	0.1	51.400
51.3	113.3	0.003	0.1	198.100
509.1	1123.7	0.011	0.4	515.700
224.9	496.3	0.007	0.2	371.800
71.0	156.6	0.004	0.1	205.300
152.5	336.5	0.007	0.2	252.100
366.3	1250.0	0.007	0.2	936.400
544.5	1201.9	0.024	0.8	262.600
484.1	1068.6	0.022	0.8	254.700
394.1	869.8	0.021	0.7	217.200
464.7	1025.0	0.019	0.7	203.100
382.0	843.0	0.018	0.6	245.600
316.8	699.3	0.017	0.6	215.700
253.1	558.7	0.016	0.6	183.100
321.7	710.0	0.015	0.5	248.200
248.5	548.4	0.014	0.5	205.400
179.6	396.4	0.013	0.5	159.900
133.2	294.0	0.013	0.5	118.600
61.1	139.0	0.012	0.4	78.200

MEAN OF SAMPLED FLOWS = 0.012 M3/SEC.

MEAN OF SAMPLED CONC = 240.576 MG/L.

THE FLOW WEIGHTED SAMPLE CONCENTRATION = 248.059 MG/L.

THE MEAN SAMPLE LOADING = 257.2 KG/DAY.

THE MEAN STRATUM FLOW = 0.00 M3/SEC OR 0.1 CFS.

THE BIASED RATIO ESTIMATE = 64.3 KG/DAY.

THE APPROXIMATELY UNBIASED RATIO ESTIMATE = 64.2 KG/DAY. THE CORRECTION FOR BIAS OF THIS ESTIMATE IS -0.1 KG/DAY.

THE RATIO OF MEAN STRATUM FLOW TO MEAN SAMPLE FLOW IS 0.25, BASED ON VALUES OF 0.00 AND 0.01 M3/SEC, RESPECTIVELY.

THE ESTIMATED MEAN STRATUM LOADING IS THEREFORE 64.2 KILOGRAMS/DAY + OR - 7.2

THESE ESTIMATES ARE BASED ON 20 DEGREES OF FREEDOM.

THE SUM-OF-SQUARES-ERROR, WHICH IS THE ANALOG TO THE ESTIMATED VARIANCE OF THE POPULATION, IS 1084.371 (KG/DAY)<sup>2</sup> OR 144.4654 (TONS/YEAR)<sup>2</sup>.

PRISONARY: JOHN CLARK JR

THE SUMMARY FOR THE 4 STRATA IS:

THE ESTIMATED MEAN DAILY LOADING IS : 12790.1 KILOGRAMS/DAY + OR - 2725.8

THE ESTIMATED MEAN-SQUARE-ERROR OF THIS ESTIMATE, WHICH MAY BE USED AS THOUGH IT WERE THE SQUARE OF THE  
STANDARD ERROR OF THE MEAN IS 7429819.580 KILOGRAMS SQUARED.

THE ESTIMATED LOADING FOR THE WATER YEAR IS 4668392 KILOGRAMS, OR 4668.4 METRIC TONS.

THE ESTIMATED MEAN SQUARE ERROR FOR THE TOTAL IS 989837713544 KILOGRAMS SQUARED, OR 989837.7 METRIC TONS SQUARED.  
THESE ESTIMATES ARE BASED ON 8.10 EFFECTIVE DEGREES OF FREEDOM.

ENVIRONMENT ONTARIO, TORONTO  
MARCH 1984.

TRIBUTARY: COLEMAN DRAIN BASIN: RONDEAU BAY JURISDICTION: ONTARIO YEAR: 1983 PARAMETER: SUSP SOLIDS

STRATUM 1 THE UPPER FLOW CUT OFF IS 1.000 CMS  
THE NUMBER OF DAYS IN THE STRATUM = 8

LOADINGS		FLOWS		CONCENTRATIONS
KG/DAY	LBS/DAY	M3/SEC	CFS	MG/LITER
53807.7	118762.5	1.310	46.3	475.400
1096307.2	4185466.0	6.000	211.9	3658.000
598229.3	1320391.7	5.500	194.2	1258.900
531839.5	1171658.5	4.500	153.9	1367.900
387644.6	855596.6	4.100	144.6	1094.300
549929.1	1213785.2	3.100	109.5	2053.200
188740.8	416582.4	2.500	88.3	373.600
112612.0	248553.5	1.600	53.6	724.100
74967.0	165506.6	1.150	40.6	754.700
599170.9	1322470.0	1.520	53.7	4562.400
553391.3	1221426.9	1.700	62.2	3639.200
166369.6	367205.4	1.270	44.6	1516.200
571017.6	1260331.0	3.000	105.9	2203.000
342005.6	754663.7	4.000	141.3	559.600
227067.6	501176.6	4.100	144.6	641.000
136376.2	300423.6	3.500	123.6	457.600
115929.6	255876.4	3.300	116.5	406.600
70744.8	155388.6	2.500	88.3	355.300
42342.2	94780.6	1.560	55.1	318.600
27556.7	60626.6	1.070	37.8	298.100
				MEAN OF SAMPLED FLOWS = 2.877 M3/SEC.
				MEAN OF SAMPLED CONC = 1332.395 MG/L.
				THE FLOW WEIGHTED SAMPLE CONCENTRATION = 1459.265 MG/L.

THE MEAN SAMPLE LOADING = 362733.7 KG/DAY. THE MEAN STRATUM FLOW = 2.80 M3/SEC OR 98.9 CFS.  
THE BIASSED RATIO ESTIMATE = 353025.5 KG/DAY.  
THE APPROXIMATELY UNBIASED RATIO ESTIMATE = 355004.1 KG/DAY. THE CORRECTION FOR BIAS OF THIS ESTIMATE IS 2038.5 KG/DAY.  
THE RATIO OF MEAN STRATUM FLOW TO MEAN SAMPLE FLOW IS 0.97, BASED ON VALUES OF 2.80 AND 2.88 M3/SEC, RESPECTIVELY.

THE ESTIMATED MEAN STRATUM LOADING IS THEREFORE 355004.1 KILOGRAMS/DAY \* OR = 73194.9

THESE ESTIMATES ARE BASED ON 17 DEGREES OF FREEDOM.

THE COEFFICIENT-OF-VARIATION, WHICH IS THE SQUARE ROOT OF THE ESTIMATED VARIANCE OF THE MEAN VALUE.

ENVIRONMENT ONTARIO, TORONTO  
MARCH 1984.

TRIBUTARY: COLEMAN DRAIN BASIN: RONDEAU BAY JURISDICTION: ONTARIO YEAR: 1983 PARAMETER: SUSP SOLIDS

STRATUM 2 THE UPPER FLOW CUT OFF IS 0.300 CMS  
THE NUMBER OF DAYS IN THE STRATUM = 7

LOADINGS		FLOWS		CONCENTRATIONS
KG/DAY	LBS/DAY	M3/SEC	CFS	MG/LITER
93369.7	206126.7	0.861	30.4	1255.400
91009.6	112577.8	0.592	20.9	997.200
25845.8	57045.9	0.406	14.3	736.800
15795.4	34663.1	0.333	11.8	549.000
5951.2	13135.2	0.481	17.0	143.200
4888.2	10789.1	0.457	16.1	123.800
4550.1	10042.9	0.423	14.9	124.500
4244.9	9369.2	0.389	13.7	126.300
3636.6	8026.5	0.389	13.7	108.200
3177.8	7013.9	0.346	12.2	106.300
3089.7	6819.4	0.319	11.3	112.100
13019.0	28735.0	0.333	11.8	452.500
15381.1	33948.7	0.410	14.5	434.200
15752.2	34767.7	0.467	16.5	390.400
15529.3	34275.8	0.544	19.2	330.400
13170.4	29069.2	0.526	18.6	289.800
12290.6	27127.5	0.496	17.5	286.800
8867.9	19572.9	0.456	16.2	224.100
7063.4	15634.3	0.420	14.8	195.200
5137.0	11336.2	0.402	14.2	147.900
3959.3	8738.8	0.375	13.2	122.200
3480.0	7680.6	0.353	12.5	114.100
3166.8	6969.7	0.332	11.7	110.400
2806.5	6196.9	0.319	11.3	101.900
2432.3	5368.6	0.306	10.8	92.000
105762.4	233479.4	0.406	14.3	3015.600
124496.6	274784.7	0.657	23.2	2193.200

MEAN OF SAMPLED FLOWS = 0.437 M3/SEC.  
MEAN OF SAMPLED CONC = 477.167 MG/L.  
THE FLOW WEIGHTED SAMPLE CONCENTRATION = 557.058 MG/L.

THE MEAN SAMPLE LOADING = 21034.5 KG/DAY. THE MEAN STRATUM FLOW = 0.51 M3/SEC OR 17.8 CFS.  
THE BIASED RATIO ESTIMATE = 24305.5 KG/DAY.  
THE APPROXIMATELY UNBIASED RATIO ESTIMATE = 24493.4 KG/DAY. THE CORRECTION FOR BIAS OF THIS ESTIMATE IS 189.8 KG/DAY.  
THE RATIO OF MEAN STRATUM FLOW TO MEAN SAMPLE FLOW IS 1.16, BASED ON VALUES OF 0.51 AND 0.44 M3/SEC, RESPECTIVELY.

THE ESTIMATED MEAN STRATUM LOADING IS THEREFORE 24493.4 KILOGRAMS/DAY \* OR = 6646.8

THESE ESTIMATES ARE BASED ON 26 DEGREES OF FREEDOM.

THE SUM-OF-SQUARES-ERROR, WHICH IS THE ANALOG TO THE ESTIMATED VARIANCE OF THE POPULATION,  
IS 1192853779.660 (KG/DAY)<sup>2</sup> OR 155917944.7960 (TONS/YEAR)<sup>2</sup>.

ENVIRONMENT ONTARIO, TORONTO  
MARCH 1984.

TRIBUTARY: COLEMAN DRAIN BASIN: RONDEAU BAY JURISDICTION: ONTARIO YEAR: 1983 PARAMETER: SUSP SOLIDS

STRATUM 3 THE UPPER FLOW CUT OFF IS 0.100 CFS  
THE NUMBER OF DAYS IN THE STRATUM = 29

LOADINGS		FLOWS		CONCENTRATIONS
KG/DAY	LB5/DAY	M3/SEC	CFS	MG/LITER
5614.6	12392.8	0.213	7.5	305.100
4321.1	9537.3	0.213	7.5	234.800
10671.9	23990.1	0.147	5.2	350.000
9693.1	21635.6	0.259	9.1	442.100
5452.3	11992.6	0.213	7.5	285.400
1177.5	2599.0	0.154	5.4	83.500
620.4	1363.4	0.128	4.5	50.100
3166.3	6988.6	0.206	7.3	177.300
1349.1	2977.7	0.167	5.9	93.500
603.2	1331.3	0.134	4.7	52.100
598.7	1321.5	0.122	4.3	50.800
1765.1	3939.9	0.108	3.8	191.300
2271.7	5014.1	0.121	4.3	217.300
2169.1	4831.7	0.108	3.8	234.600
1672.1	4132.0	0.294	10.4	73.700
1777.2	3922.5	0.261	9.9	73.200
1536.3	3390.8	0.269	9.5	69.100
1300.6	2870.6	0.256	9.0	58.800
1300.7	2870.9	0.244	8.6	61.700
1093.6	2414.1	0.234	8.3	54.100
1000.3	2207.7	0.227	8.0	51.000
974.5	2150.8	0.219	7.7	51.500
656.7	1495.2	0.211	7.5	47.100
617.6	1365.1	0.204	7.2	46.400
646.6	1431.5	0.196	6.9	38.300
754.3	1664.6	0.194	6.9	45.000
321.1	706.8	0.109	3.8	34.100

MEAN OF SAMPLED FLOWS = 0.194 M3/SEC.  
MEAN OF SAMPLED CONC = 147.870 MG/L.  
THE FLOW WEIGHTED SAMPLE CONCENTRATION = 141.540 MG/L.

THE MEAN SAMPLE LOADING = 2367.3 KG/DAY. THE MEAN STRATUM FLOW = 0.18 M3/SEC OR 6.3 CFS.  
THE BIASED RATIO ESTIMATE = 2176.8 KG/DAY.  
THE APPROXIMATELY UNBIASED RATIO ESTIMATE = 2173.0 KG/DAY. THE CORRECTION FOR BIAS OF THIS ESTIMATE IS -3.8 KG/DAY.  
THE RATIO OF MEAN STRATUM FLOW TO MEAN SAMPLE FLOW IS 0.92, BASED ON VALUES OF 0.18 AND 0.19 M3/SEC. RESPECTIVELY.

THE ESTIMATED MEAN STRATUM LOADING IS THEREFORE 2173.0 KILOGRAMS/DAY \* OR = 476.6

THESE ESTIMATES ARE BASED ON 28 DEGREES OF FREEDOM.

THE SUM-OF-SQUARES-ERROR, WHICH IS THE ANALOG TO THE ESTIMATED VARIANCE OF THE POPULATION, IS 6132692.703 (KG/DAY) OR 517034.6304 (POUNDS/DAI) 2.

ENVIRONMENT ONTARIO, TORONTO  
MARCH 1984.

TRIBUTARY: COLEMAN DRAIN BASIN: RONDEAU BAY JURISDICTION: ONTARIO YEAR: 1983 PARAMETER: SUSP SOLIDS

#### STRATUM 4

THE NUMBER OF DAYS IN THE STRATUM = 164

LOADINGS		FLOWS		CONCENTRATIONS
KG/DAY	LBS/DAY	M3/SEC	CFS	MG/LITER
574.5	1268.1	0.032	1.1	207.800
535.0	1180.8	0.032	1.1	193.500
526.4	1161.9	0.041	1.4	148.600
133.4	294.5	0.027	1.0	57.200
49.3	108.8	0.023	0.8	24.800
3427.7	7565.4	0.072	2.5	551.000
2516.5	5554.4	0.096	3.4	303.400
56.1	123.9	0.032	1.1	20.300
973.0	2147.7	0.060	2.1	187.700
1958.1	4321.9	0.084	3.0	269.800
137.5	303.4	0.034	1.2	46.600
37.3	82.4	0.032	1.1	13.500
162.4	358.4	0.072	2.5	26.100

MEAN OF SAMPLED FLOWS = 0.049 M3/SEC.

MEAN OF SAMPLED CONC = 157.731 MG/L.

THE FLOW WEIGHTED SAMPLE CONCENTRATION = 201.451 MG/L.

THE MEAN SAMPLE LOADING = 852.9 KG/DAY.

THE MEAN STRATUM FLOW = 0.04 M3/SEC OR 1.3 CFS.

THE BIASED RATIO ESTIMATE = 661.4 KG/DAY.

THE APPROXIMATELY UNBIASED RATIO ESTIMATE = 673.7 KG/DAY. THE CORRECTION FOR BIAS OF THIS ESTIMATE IS 12.3 KG/DAY.

THE RATIO OF MEAN STRATUM FLOW TO MEAN SAMPLE FLOW IS 0.78, BASED ON VALUES OF 0.04 AND 0.05 M3/SEC, RESPECTIVELY.

THE ESTIMATED MEAN STRATUM LOADING IS THEREFORE 673.7 KILOGRAMS/DAY OR - 179.6

THESE ESTIMATES ARE BASED ON 12 DEGREES OF FREEDOM.

THE SUM-OF-SQUARES-ERROR, WHICH IS THE ANALOG TO THE ESTIMATED VARIANCE OF THE POPULATION, IS 419495.97% (KG/DAY)<sup>2</sup> OR 55887.3514 (TONS/YEAR)<sup>2</sup>.



PRISONARY: COLEMAN DRAIN

THE SUMMARY FOR THE 4 STRATA IS:

THE ESTIMATED MEAN DAILY LOADING IS : 15314.9 KILOGRAMS/DAY \* OR - 2828.4

THE ESTIMATED MEAN-SQUARE-ERROR OF THIS ESTIMATE, WHICH MAY BE USED AS THOUGH IT WERE THE SQUARE OF THE  
STANDARD ERROR OF THE MEAN IS 7999722.847 KILOGRAMS SQUARED.

THE ESTIMATED LOADING FOR THE WATER YEAR IS 5569920 KILOGRAMS, OR 5589.9 METRIC TONS.

THE ESTIMATED MEAN SQUARE ERROR FOR THE TOTAL IS 1065772492020 KILOGRAMS SQUARED, OR 1065772.4 METRIC TONS SQUARED.

THESE ESTIMATES ARE BASED ON 19.36 EFFECTIVE DEGREES OF FREEDOM.

ENVIRONMENT ONTARIO, TORONTO  
MARCH 1984.

TRIBUTARY: HUBBARD DRAIN BASIN: RONDEAU BAY JURISDICTION: ONTARIO YEAR: 1983 PARAMETER: SOSP SOLIDS

STRATUM 1 THE UPPER FLOW CUT OFF IS 10.000 CFS  
THE NUMBER OF DAYS IN THE STRATUM = 1

LOADINGS		FLOWS		CONCENTRATIONS	
KG/DAY	LBS/DAY	M3/SEC	CFS	MG/LITER	
137669.8	303860.2	0.538	19.0	2961.600	
113399.2	250290.9	0.490	17.3	2679.200	
59306.9	130900.1	0.490	17.3	1401.200	
24456.7	53979.9	0.377	13.3	751.600	
15638.5	34516.7	0.357	12.6	507.300	
				MEAN OF SAMPLED FLOWS =	0.450 M3/SEC.
				MEAN OF SAMPLED CONC =	1660.180 MG/L.
				THE FLOW WEIGHTED SAMPLE CONCENTRATION =	1801.882 MG/L.

THE MEAN SAMPLE LOADING = 70094.2 KG/DAY. THE MEAN STRATUM FLOW = 0.36 M3/SEC OR 12.6 CFS.  
THE BIASED RATIO ESTIMATE = 55546.3 KG/DAY.  
THE APPROXIMATELY UNBIASED RATIO ESTIMATE = 56577.2 KG/DAY. THE CORRECTION FOR BIAS OF THIS ESTIMATE IS 1030.9 KG/DAY.  
THE RATIO OF MEAN STRATUM FLOW TO MEAN SAMPLE FLOW IS 0.79, BASED ON VALUES OF 0.36 AND 0.45 M3/SEC, RESPECTIVELY.

THE ESTIMATED MEAN STRATUM LOADING IS THEREFORE 56577.2 KILOGRAMS/DAY + OR - 15536.5

THESE ESTIMATES ARE BASED ON 4 DEGREES OF FREEDOM.

THE SUM-OF-SQUARES-ERROR, WHICH IS THE ANALOG TO THE ESTIMATED VARIANCE OF THE POPULATION,  
IS 1206917841.000 (KG/DAY)<sup>2</sup> OR 160791629.3670 (TONS/YEAR)<sup>2</sup>.

ENVIRONMENT ONTARIO, TORONTO  
MARCH 1984.

TRIBUTARY: HUBBARD DRAIN BASIN: RONDEAU BAY JURISDICTION: ONTARIO YEAR: 1983 PARAMETER: SUSP SOLIDS

STATION 2 THE UPPER FLOW CUT OFF IS 3.000 CFS  
THE NUMBER OF DAYS IN THE STRATUM = 5

LOADINGS		FLOWS		CONCENTRATIONS
KG/DAY	LB/DAY	M3/SEC	CFS	MG/LITER
8393.2	18525.2	0.241	8.5	403.600
2172.7	4795.5	0.108	3.8	233.700
2258.3	4984.4	0.204	7.2	128.200
2286.0	5045.5	0.201	7.1	131.600
2023.7	4466.6	0.201	7.1	116.500
1752.7	3868.6	0.170	6.0	119.400
1372.5	3029.4	0.144	5.1	110.000
1115.5	2462.1	0.144	5.1	39.400
1280.0	2825.1	0.125	4.4	118.900
5124.7	11311.2	0.153	5.4	387.900
				MEAN OF SAMPLED FLOWS = 0.169 M3/SEC.
				MEAN OF SAMPLED CONC = 183.920 MG/L.
				THE FLOW WEIGHTED SAMPLE CONCENTRATION = 190.190 MG/L.

THE MEAN SAMPLE LOADING = 2777.9 KG/DAY. THE MEAN STRATUM FLOW = 0.16 M3/SEC OR 5.8 CFS.  
THE BIASED RATIO ESTIMATE = 2696.8 KG/DAY.  
THE APPROXIMATELY UNBIASED RATIO ESTIMATE = 2713.4 KG/DAY. THE CORRECTION FOR BIAS OF THIS ESTIMATE IS 14.5 KG/DAY.  
THE RATIO OF MEAN STRATUM FLOW TO MEAN SAMPLE FLOW IS 0.97, BASED ON VALUES OF 0.16 AND 0.17 M3/SEC, RESPECTIVELY.

THE ESTIMATED MEAN STRATUM LOADING IS THEREFORE 2713.4 KILOGRAMS/DAY + OR - 609.2

THESE ESTIMATES ARE BASED ON 9 DEGREES OF FREEDOM.

THE SUM-OF-SQUARES-ERROR, WHICH IS THE ANALOG TO THE ESTIMATED VARIANCE OF THE POPULATION, IS 3711177.952 (KG/DAY)<sup>2</sup> OR 494421.6667 (TONS/YEAR)<sup>2</sup>.

ENVIRONMENT ONTARIO, TORONTO  
MARCH 1984.

TRIBUTARY: HUBBARD DRAIN BASIN: KORDEAU BAY JURISDICTION: ONTARIO YEAR: 1983 PARAMETER: SOSP SOLIDS

STRATUM 3 THE UPPER FLOW CUT OFF IS 1.000 CFS  
THE NUMBER OF DAYS IN THE STRATUM = 17

LOADINGS		FLOWS		CONCENTRATIONS
KG/DAY	LBS/DAY	M3/SEC	CFS	MG/LITER
186.0	410.6	0.037	1.3	57.600
1901.9	2211.3	0.074	2.6	157.500
359.6	793.6	0.040	1.4	105.000
2933.6	6468.6	0.074	2.6	319.700
212.0	467.0	0.034	1.2	45.600

MEAN OF SAMPLED FLOWS = 0.056 M3/SEC.  
MEAN OF SAMPLED CONC = 137.080 MG/L.  
THE FLOW WEIGHTED SAMPLE CONCENTRATION = 157.881 MG/L.

THE MEAN SAMPLE LOADING = 758.6 KG/DAY. THE MEAN STRATUM FLOW = 0.05 M3/SEC OR 1.8 CFS.  
THE BIASED RATIO ESTIMATE = 695.3 KG/DAY.  
THE APPROXIMATELY UNBIASED RATIO ESTIMATE = 718.2 KG/DAY. THE CORRECTION FOR BIAS OF THIS ESTIMATE IS 22.9 KG/DAY.  
THE RATIO OF MEAN STRATUM FLOW TO MEAN SAMPLE FLOW IS 0.92, BASED ON VALUES OF 0.05 AND 0.06 M3/SEC, RESPECTIVELY.

THE ESTIMATED MEAN STRATUM LOADING IS THEREFORE 718.2 KILOGRAMS/DAY + OR - 260.1

THESE ESTIMATES ARE BASED ON 4 DEGREES OF FREEDOM.

THE SUM-OF-SQUARES-ERROR, WHICH IS THE ANALOG TO THE ESTIMATED VARIANCE OF THE POPULATION, IS 338174.595 (KG/DAY)<sup>2</sup> OR 45033.3105 (TONS/YEAR)<sup>2</sup>.

ENVIRONMENT ONTARIO, TORONTO  
MARCH 1984.

TRIBUTARY: HUBBARD CRAIN BASIN: RONDEAU BAY JURISDICTION: ONTARIO YEAR: 1983 PARAMETER: SUSP SOLIDS

#### STRATUM 4

THE NUMBER OF DAYS IN THE STRATUM = 82

LOADINGS		FLOWS		CONCENTRATIONS
KG/DAY	LBS/DAY	M3/SEC	CFS	MG/LITER
3.7	8.2	0.004	0.2	10.100
60.4	133.4	0.023	1.0	24.700
108.5	239.5	0.010	0.4	123.200
136.7	301.8	0.013	0.5	121.500
91.5	201.9	0.013	0.5	81.300
				MEAN OF SAMPLED FLOWS = 0.014 M3/SEC.
				MEAN OF SAMPLED CONC = 72.160 MG/L.
				THE FLOW WEIGHTED SAMPLE CONCENTRATION = 67.430 MG/L.

THE MEAN SAMPLE LOADING = 80.2 KG/DAY. THE MEAN STRATUM FLOW = 0.01 M3/SEC OR 0.2 CFS.  
 THE BIASED RATIO ESTIMATE = 29.7 KG/DAY.  
 THE APPROXIMATELY UNBIASED RATIO ESTIMATE = 27.8 KG/DAY. THE CORRECTION FOR BIAS OF THIS ESTIMATE IS -1.9 KG/DAY.  
 THE RATIO OF MEAN STRATUM FLOW TO MEAN SAMPLE FLOW IS 0.37, BASED ON VALUES OF 0.01 AND 0.01 M3/SEC, RESPECTIVELY.

THE ESTIMATED MEAN STRATUM LOADING IS THEREFORE 27.8 KILOGRAMS/DAY + OR - 10.9

THESE ESTIMATES ARE BASED ON 4 DEGREES OF FREEDOM.

THE SUM-OF-SQUARES-ERROR, WHICH IS THE ANALOG TO THE ESTIMATED VARIANCE OF THE POPULATION,  
 IS 591.521 (KG/DAY)<sup>2</sup> OR 78.6054 (TONS/YEAR)<sup>2</sup>.

PRISONERS: HOBARD BRAIN

THE SUMMARY FOR THE 4 STRATA IS:

THE ESTIMATED MEAN DAILY LOADING IS : 896.0 KILOGRAMS/DAY + OR - 156.8

THE ESTIMATED MEAN-SQUARE-ERROR OF THIS ESTIMATE, WHICH MAY BE USED AS THOUGH IT WERE THE SQUARE OF THE STANDARD ERROR OF THE MEAN IS 24580.815 KILOGRAMS SQUARED.

THE ESTIMATED LOADING FOR THE WATER YEAR IS 294193 KILOGRAMS, OR 294.2 METRIC TONS.

THE ESTIMATED MEAN SQUARE ERROR FOR THE TOTAL IS 3274779044 KILOGRAMS SQUARED, OR 3274.8 METRIC TONS SQUARED.

THESE ESTIMATES ARE BASED ON 5701 EFFECTIVE DEGREES OF FREEDOM.

SEASONAL LOADINGS

Seasonal loadings were calculated by the stratum method where the streamflow was broken down into ranges. The average concentration of suspended solids were then calculated for each stratum and the number of days the flow was in that range. From this, an average daily loading can be calculated for each station. This procedure removes the bias of the high sample concentrations and the results are actually weighted to flow. Using this procedure, the following calculations were done.

<u>Drain</u>	<u>Avg. Daily Load</u>	<u>Size of Drainage Area</u>
John Clarke	12,790 kg/day 12.8 tonne/day	922 acres
Hubbard	2,165 kg/day 2.2 tonne/day	723 acres
Coleman	15,314.9 kg/day 15.3 tonne/day	2745 acres
TOTAL	30,300.9 kg/day 30.3 tonne/day	4390 acres

Average Measured Load - 0.0069 tonne/acre/day

Total acreage of cropland in Rondeau Bay - 27,050 acres

Estimated average daily load to Rondeau Bay - 186.6 tonne/day

Assume 90 days of no runoff in winter (ground frozen)

Estimated annual load to Rondeau Bay - 51,300 tonne



This can be considered a conservative estimate because sampling did not include all of the spring runoff in 1983. Also, the 90 days of no runoff or frozen ground is probably high for this area.

The Rondeau Bay Watershed Master Erosion Control Plan estimated a gross sediment yield of approximately 41,000 tonnes per year. This is only 20 percent lower than the estimate using measured values. However, our value rests on the assumption that the average of the measured loads at our 3 tributary monitoring stations is representative of the whole basin.

LOADING STORM OF SEPTEMBER 16-17, 1983

The storm of September 16 dropped approximately 3.5 cm of rain. The loadings for this storm were calculated by weighting the measured concentrations of suspended solids to measured flow over the 24 hour event. A graph to suspended solids and discharge versus time is shown for the three monitoring stations. Using a standard weighting procedure, the following loads were calculated:

<u>Drain</u>	<u>Tonnes of Suspended Solids Delivered</u>	<u>Drainage Area Acres</u>	<u>Loading Tonnes/Acre</u>
Coleman	137.3	2745	0.050
John Clarke	146.4	922	0.159
Hubbard	20.1	723	0.028

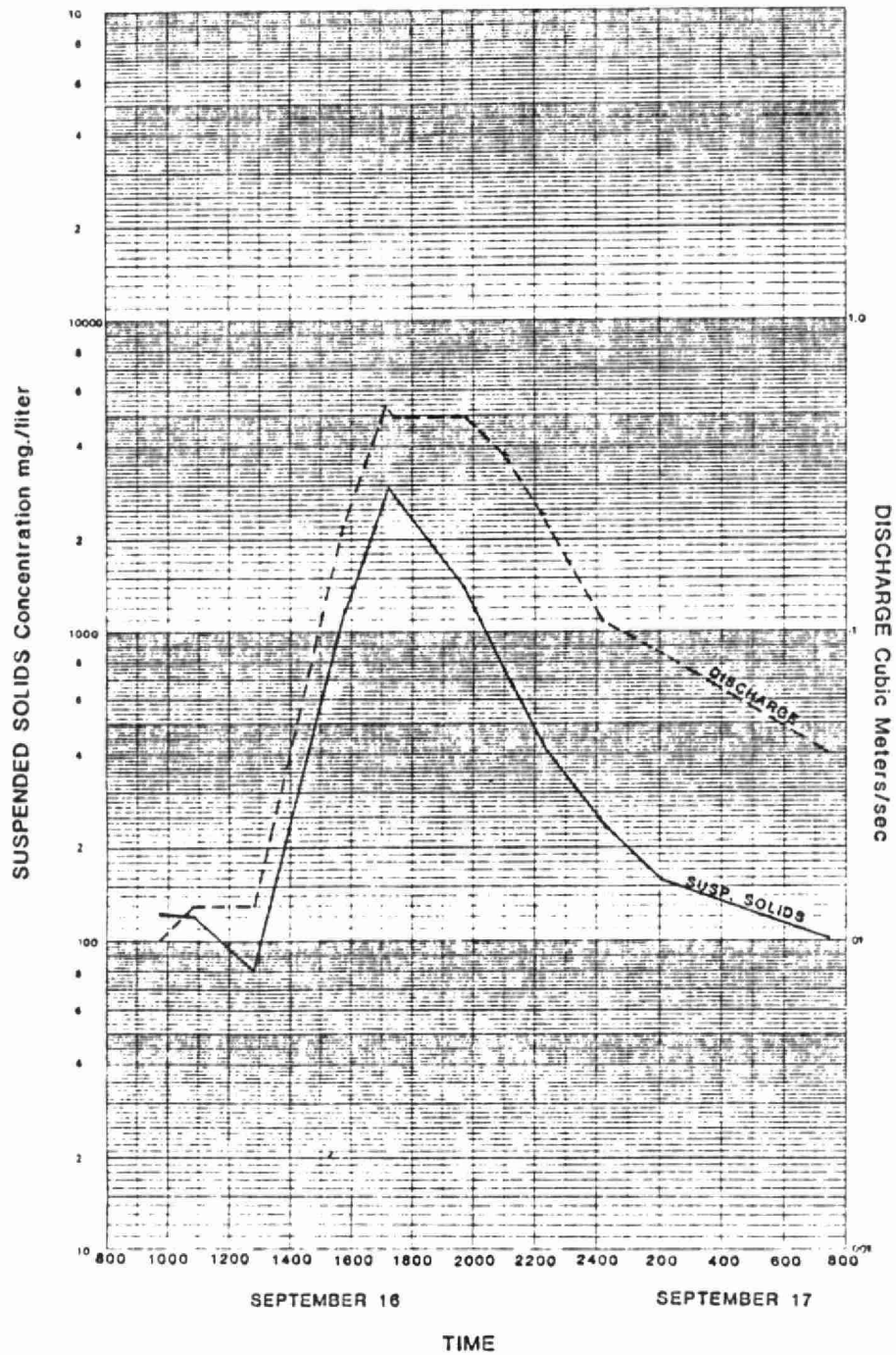
Average loading - 0.079 tonnes/acre

Total area of cropped land in Rondeau Watershed - 27,050 acres

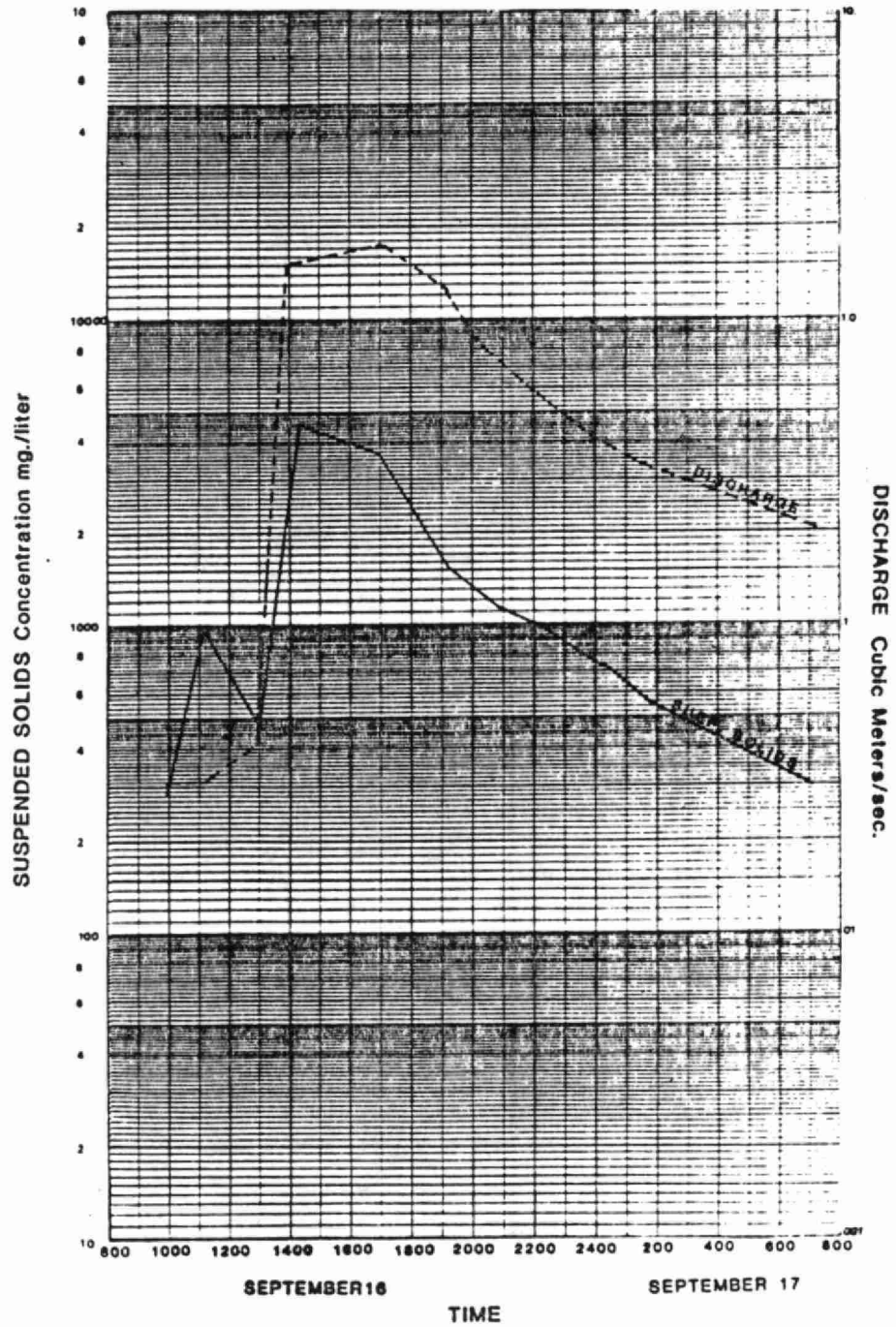
Total load delivered to Rondeau Bay during storm 2,137 tonne

- this is equivalent to a 214 10 yeard dump truck loads during this one day
- a storm of this magnitude occurred approximately once a month during the summer of 1983

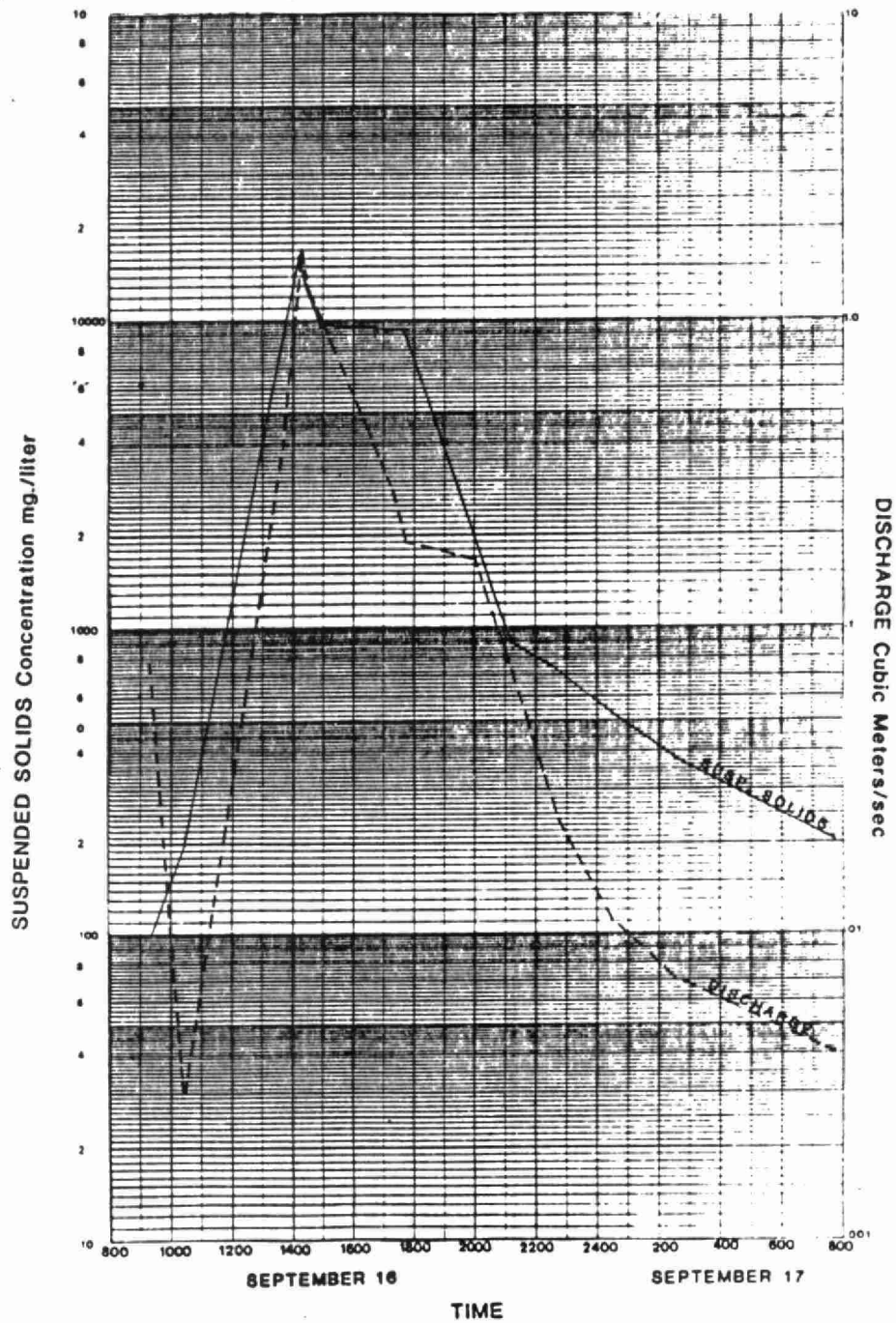
SUSPENDED SOLIDS AND DISCHARGE VS. TIME  
for Sept. 16-17, 1983 at HUBBARD DRAIN



SUSPENDED SOLIDS AND DISCHARGE VS. TIME  
for Sept. 16-17, 1983 at COLEMAN DRAIN



SUSPENDED SOLIDS AND DISCHARGE VS. TIME  
for Sept. 16-17, 1983 at JOHN CLARK DRAIN



Pesticide Residue Analysis  
Tributary Streams to Rondeau Bay  
Water Analysis May 19/83

Lab No.	Sample Description	Content in water samples as rec'd (ug/L)								
		Alachlor	Metolachlor	Atrazine	D-atrazine	Simazine	Metribuzin	Cyanazine	Dicamba	2,4-D
4686	Water - John Clark drain	5.2	TR (LO.1)	1.8	0.6	ND (LO.1)	ND	0.7	ND	ND
4687	Water - Indian Creek	5.6	1.5	3.2	0.7	ND	ND	4.3	ND	ND
4688	Water - Coleman	7.5	2.0	2.5	0.7	5.3	ND	0.2	23.7	ND

Water Analysis July 8/83

Lab No.	Sample Description	Alachlor	Content in water samples as rec'd (ug/L)							
			Metolachlor	Dicamba	Dichlorprop	2,4-D	Atrazine	D-atrazine	Metribuzin	Cyanazine
6107	John Clark Drain	99.3	23.1	0.7	2.8	1.2	14.2	3.5	4.7	15.2
6108	Indian Creek	37.1	35.6	6.8	2.3	19	39.5	2.7	21.3	9.5
6109	Coleman Drain	44.5	18.2	6.8	1.6	1.2	75.8	7.5	13.1	4.7
6110	Willow Creek	122	10.5	19.6	0.8	0.5	9.1	TR (LO.1)	35.6	0.8
6111	Flat Creek	65.3	13.0	2.2	1.1	0.9	1.3	1.7	29.7	2.1
6112	McArthur Drain	71.6	ND (LO.2)	ND	1.2	1.9	9.2	2.0	21.3	6.0

Water Analysis Sept 16/83

Lab No.	Sample Description	Content in water samples as rec'd (ug/L)											
		Phenoxys					Dicamba	Triazines				Alachlor	Metolachlor
		MCPP	MCPA	Dichlorprop	2,4-D	Others		Atrazine	D-atraz.	Cyanaz.	Other		
9685	John Clark drain	ND (LO.1)	ND	ND	ND	ND	ND	4.7	1.1	ND	ND	ND	ND
9686	Georgia Creek	ND	ND	ND	ND	ND	ND	1.3	0.5	ND	ND	ND	ND
9687	Indian Creek	ND	ND	ND	ND	ND	ND	2.9	0.9	ND	ND	ND	ND
9688	Flat Creek	ND	ND	ND	ND	ND	ND	1.8	0.4	ND	ND	ND	ND
9689	Indian Creek	ND	ND	ND	ND	ND	ND	0.7	0.2	ND	ND	ND	ND
9690	Coleman Drain	ND	ND	ND	ND	ND	ND	4.3	0.7	ND	ND	ND	ND
9691	Mill Creek	ND	ND	ND	ND	ND	ND	0.9	0.2	ND	ND	ND	ND

NOTE - Water samples taken by random grab from water surface.

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